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ABSTRACT

The proceedings of the 1980 Suggestive-Accelerative Learning and Teaching (SALT) conference include: "Creative Power in Action: Discovering Your 'Right' Mind" (Carole Austen and Hilary Johnson); "The Co-Creative Teacher: A Key Dimension in Accelerated Learning in the Classroom" (Susan M. Campbell); "The Application of Psychosynthesis to Accelerated Learning in the Classroom" (Naomi Emmerling, Carol Hwoschinsky, and Gail Montgomery); "Education of the Gifted in Utopia" (John C. Gowan); "Access to Hidden Reserves of the Unconscious Through Dreams in Creative Problem Solving" (Stanley Krippner); "Applying SALT to Fifth Grade Reading Instruction" (Allyn Prichard, Donald Schuster, and Jan Gensch); and "Discussing Suggestive Semiotics in Language Learning" (Arthur Szentgyorgyvari). (MSE)

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THE JOURNAL OF SUGGESTIVE-ACCELERATIVE LEARNING AND TEACHING

Volume 5, Number 1 Spring, 1980

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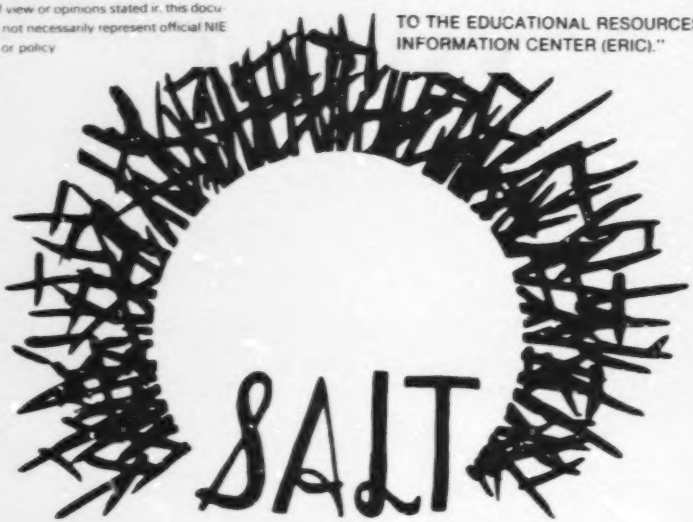

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THE JOURNAL FOR THE SOCIETY OF ACCELERATIVE LEARNING AND TEACHING

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Creative Power in Action. Discovering your "Right" Mind.*

Carole Austen, M.A., A.T.R.
Brain Integration Center

and

Hilary Johnson

Abstract

This article deals with right and left brain integration through continuous line drawing and its use as an accelerative learning process. The ability to write, speak or draw in a spontaneously organized way, while participating in image streaming is the expressed energy of integrated, left/right brain function. It is creative power in action.

In the beginning was the Image (art)
and THEN came
the WORD!**

Drawing, the making of pictures, is the language (expressive energy) of right brain spatial consciousness. It is as important to the evolutionary development of human creative intelligence as expository writing, the language or expressive energy of left brain, ordered, linear consciousness.

A PICTURE IS WORTH A THOUSAND WORDS
(to a right brained person.)

A THOUSAND WORDS ARE WORTH A PICTURE
(to a left brained person.)

The ability to write, speak, or draw in a *spontaneously organized* way, while participating in image streaming is the expressed energy of integrated, left and right brain function, or creative power in action. The spontaneous orator, the timeless, heart-connected artist, the universally loved political leader, the inspired spiritual messenger, the great author, the ultimate entrepeneur, the olympic sportsman, represent integrated

*The material in this paper is taken from *Creative Power: Freedom, Vision and Action* . Encinitas, CA: Brain Integration Center/in press.)

**"Word" in this context infers verbal and written language patterns, not universal sound vibration as was the original intent.

6

persons who consistently focus creative energy in spontaneous, dynamically ordered and powerful ways. Diagrams that reveal patterns and synthesize symbolic information are the language of the integrated mind.

ONE DIAGRAM IS WORTH A THOUSAND WORDS *AND* A THOUSAND PICTURES

(to a right and left brain integrated person.)

The Brain Integration Center trains these capabilities and is dedicated to the development of multi-dimensional, creative people with unlimited resources, energy, and personal power.

It is not enough that we explore and understand the multi-dimensional nature of our brain function. We must now know how to use it in its highest capacity to turn back the tides of political and economic chaos and depression that seem to be about to overwhelm us. Bringing out the natural genius in every man through the widespread use of super-learning techniques and multi-dimensional brain integration is not just a moral obligation, it is a route to survival and re-creation of a safe and nurturing world. You might say we need and are asking for a miracle. Now, finally, at the same time we are offering a concrete way to achieve that miracle.

R. Buckminster Fuller (1975) reminds us that, "In order to emerge from its (our) massive ignorance, society will probably have to rely exclusively upon its individuals' own minds to survey the pertinent experimental data, think for ourselves, - as do all great scientist-artists."

Spontaneous Response (continuous line) Drawing is a graphic technique that demonstrates the sequential organization (left brain function), and exemplifies the thought patterns of the scientist-artist. It is "Fast, fun and easy," and highly effective as a tool for releasing creative power in all social/cultural clusters and at all age and grade levels; 97% of those participating integrate in one eight-hour drawing and energy releasing session.

The following pictures show examples of drawing skills before and after *one* Brain Integration Seminar. Drawing 1A shows a student's drawing skill before the Brain Integration Seminar. Drawing 1B shows his skill after two hours of the seminar. Drawing 1C shows his skill at the end of the seminar; the drawing was made in 10 minutes in ink in one continuous line with no erasures or corrections.

Drawing 1A. Portrait of classmate.

Drawing 1B. Portrait of classmate.

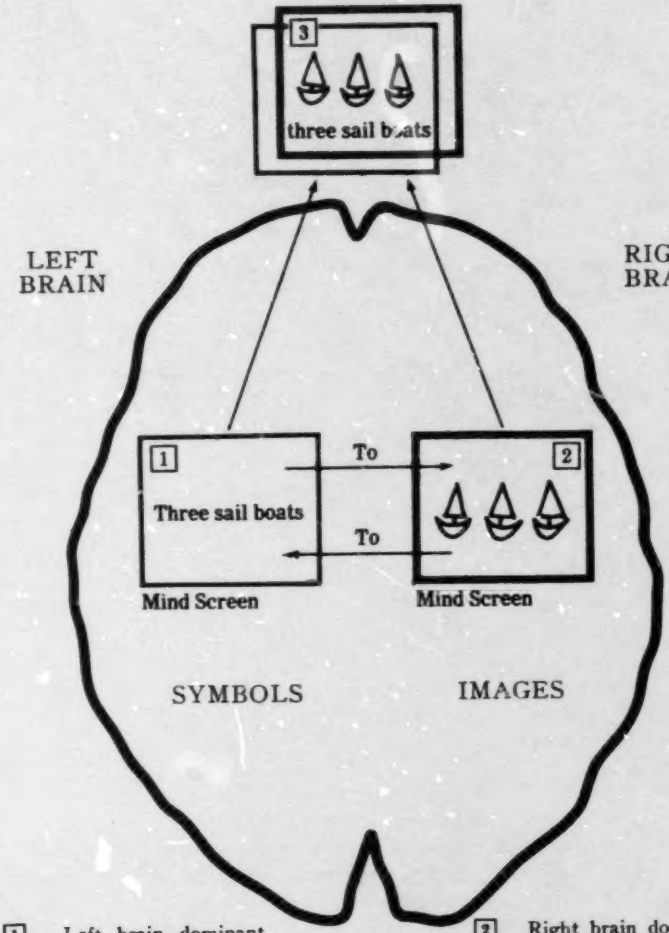
Drawing 1C. Self-portrait done in hand mirror.

The integrated drawings above took no more than 10 minutes and were taken from life, drawn in ink with no mistakes, no erasures and no corrections. This drawing process represents thousands of logically and sequentially organized recordings of form and space, and clear, sustained synthesis and pattern-seeing activity. This state of attention is similar to a state of open-eyed meditation, deep inner perceptual focus of attention being available simultaneously with external focus of attention to the integrated mind screen.

The practice of Spontaneous Response Drawing opens up channels of creativity and trains the mind to process image receiving right brain information in an orderly, sequential fashion, as well as linear symbolic

left brain information relationally. The artist-scientist experiences new linear symbolic information relationally (getting the symbols first, the images later). The Einstein model has been limiting, as it describes only

Fig. 1 - INTEGRATED MIND SCREEN



[1] Left brain dominant Shift includes recognition of symbols first, image patterning second.

[2] Right brain dominant shift includes image receiving first and symbol recognition second.

[3] Right and left brain integration includes simultaneous recognition of symbolic information and image-patterning.

the right to left hemisphere track (image to symbol), leaving out the possibility of the reverse pattern (symbol to image). It is this process of pattern-seeing and synthesis of the metaphysical whole brain/mind constellation that is the basis for super-learning and creative genius.

In our advanced brain integration through art and ambidextrous education seminars, we are observing that creative process (simultaneous pattern-seeing and syntheses) can be expressed equally well by the same person in both left and right handed drawings, with only a slight shift in focus of field state attention (radial or convergent energy patterns). The right handed drawings seem to be more objective, more controlled, more one-ponted; the left handed drawings seem to be more subjective, more spontaneous, more diffuse in their expression. Drawing 2A is from a predominantly right-handed student before the seminar. Drawing 2B was done right-handedly by this student after two hours in the seminar. Drawing 2C was then done by this student in 10 minutes in one continous line with no corrections lefthandedly.

Using both Right and Left Hand.

Drawing 2A.
Drawing skills before
Brain Integration Seminar.

Drawing 2B.
After 2 hours of Spontaneous
Response Drawing.

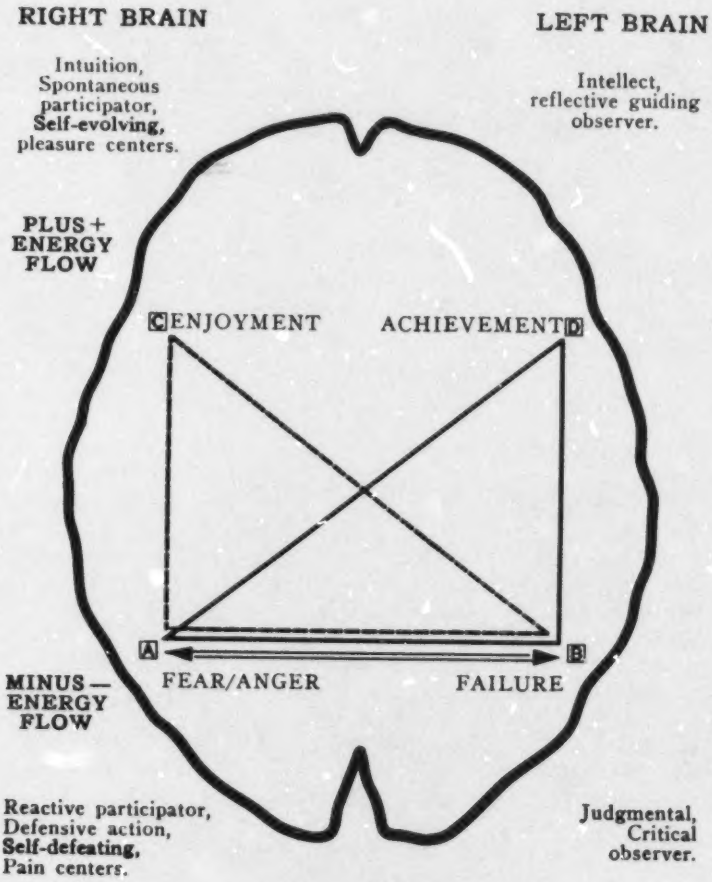
Drawing 2C.
Left-handed self-portrait
after two hours of drawing.

Spontaneous response drawing and ambidexterous education open up a two-way channel between hemispheres, making available the appropriate use of either intuition or intellect, or any balance or combination of both for each new situation. Ultimately, this becomes a rapid, effortless, energy-releasing activity.

Discussing brain function as related to psychology with the amount of scientific information available to us at this time, is a bit like the cardinals of the past discussing how many angels could dance on the head of a pin — but nevertheless the subject is so fascinating that speculation is irresistible! In searching for ways to channel the creative energy (relaxed, sustained focus of attention) needed to release Spontaneous Response Drawing capability, we recognized the direct connection between the construction of personality (self-image) and the ability to express oneself. We have been able to identify clearly a number of the many energy blocking as well as energy releasing patterns of consciousness that change specifically and predictably the drawing expression. Seeing clearly the relationships between the construct of personality, consciousness and actions invariably cuts down the time needed for integration to appear in student drawings. This speaks highly for the validity of such a procedure! The "map" of consciousness shows the paths to take, the ones to avoid, and the ones that need clearing and reconstruction. See Figures 2 and 3. 11

Fig. 2 - MAP OF CONSCIOUSNESS.

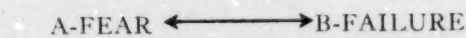
Three energy blocking, performance-inhibiting, pain-pleasure patterns of right & left brain consciousness.



Pleasure and pain experiences can be consciously manipulated by instruction during the drawing seminar to demonstrate attitudinal shift from one pattern of consciousness in the brain to another. Figure 2 shows three typical energy blocking, performance inhibiting, pain/pleasure patterns of consciousness that can be recognized and redirected by the Spontaneous Response Drawing experience.

Energy Blocking Pattern 1 . Right brain pain center A- *Fear/Anger* , to left brain pain center B- *Failure* . Fear, anger, hate, resentment, resistance, jealousy, all adrenalized, reactive, defensive or aggressive responses to events and persons, when energized and connected to L-brain pain center B- *Failure* (sense of worthlessness in self or others), sets up a pattern of frustration, depression, hopelessness and helplessness. Needless to say, the person who holds this depressing energy flow pattern "can't draw," or do much of anything else. His physical and psychic energy is always low as he commutes between Fear and Failure, and his main experience of life is that it is indeed a "large pain."

Fig. 3.



Energy Blocking Pattern 2 . R-brain pain center A- *Fear/Anger* , to L-brain pleasure center D- *Achievement* . Although pattern 2 includes one pleasure center, it is only a small improvement over pattern 1. Some creative action is taking place. This action may even include a large achievement; however, this achievement continues to be connected to pain and anxiety. This is the workaholic and overachieving, stressed out student pattern. This person often experiences himself as a failure no matter how successful he or she may be in the eyes of the world. He will try to control his drawings in the seminar (left brain expectations connected to critical judgment) by working hard at developing predictable skills. He will not be able to relax and surrender to the inner rhythms and timing needed for spontaneity and beauty (enjoyment) to appear in his drawing (right brain capability). He will vacillate between making huge efforts (working hard) to take control (L-brain quality) and succumbing to resentment and anger (R-brain quality) when the product of his effort fails to meet his expectations. His frustration will be in *not* being able to force his own excellence beyond the level of technical skills into intuitive brilliance or perfection. He will be mystified by his own failure. Looking at the diagram you will notice that in triangulating the form and energy flow between A-Fear/Anger, D-Achievement and B-Failure, he has created his own self perpetuating, energy blocking "trap." He will likely say, "I try (work) so hard, why doesn't my drawing get better?" or, "Why isn't life easier (more rewarding)?" or "Why do I not succeed?" or, "Why am I not happy?" or, "I'll show them ..."

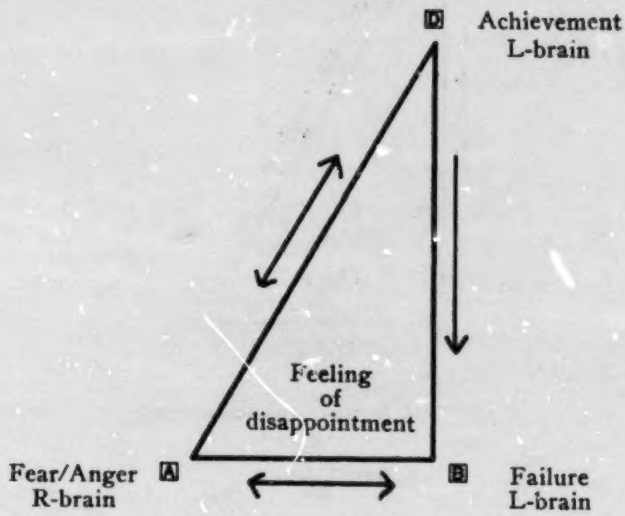


Fig. 4 Typical energy blocking personality/action pattern.

Energy Blocking Pattern 3 . L-brain pain center B- *Failure* , to R-brain pleasure center C- *Enjoyment* . The person caught in this pattern is often heard saying, "I'm already a failure, so I'll just fool around, drop out, goof off, because it doesn't really matter what I do." He or she often escapes into drugs, alcohol or cigarettes to manufacture the enjoyment his low self image prevents him from creating for himself and to mask his sense of failure. This person finds it difficult to focus his attention on drawing (or anything else) because of the disintegrating nature of the anxiety and fear that attach themselves to failure. Secretly, and sometimes openly, he hates himself and the world for his frustration and inability to create his own life. This triangulation between A- *Fear/Anger* , B- *Failure* , C-manufactured guilt that produces Enjoyment, stabilizes into a pattern and traps the negative energy flow, again making it self-perpetuating. The stabilizing of the A, B, C triangle virtually prevents the inclusion of any sense of D-Achievement, just as the reverse triangle, A, B, and D eliminates any possibility of C-Enjoyment] Enjoyment reached to compensate for a sense of failure often drops down to anger/fear and feelings of guilt. "I'm not worthy so it doesn't matter what I do...."

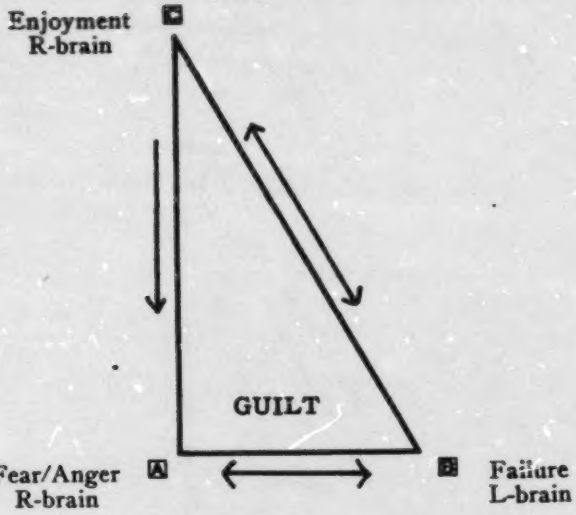


Fig. 5 Anger/fear-failure-enjoyment trap

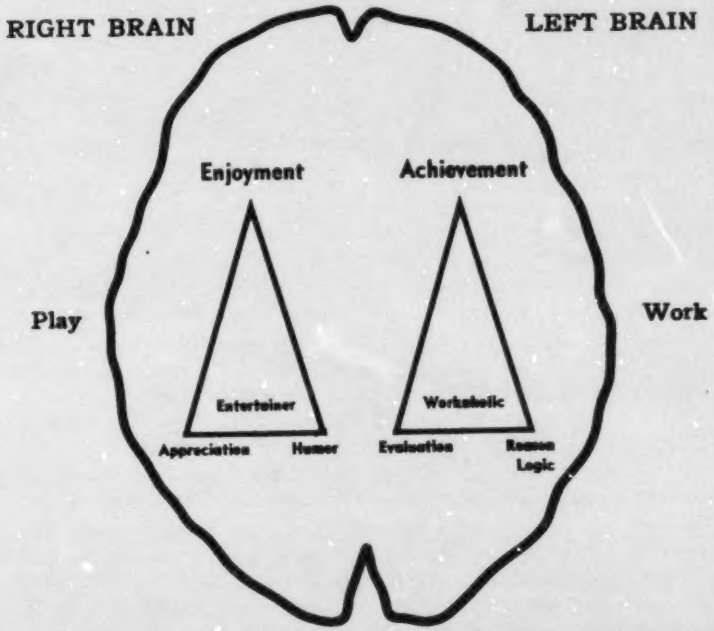


Fig. 6-Triangulation of either right or left brain aspects of hemispheric specialization. Energy caught in right or left pattern unbalances personality.

Eighty percent (80%) of the drawing seminar time is spent in breaking open the triangulated self-defeating energy patterns to release creative power. The drawing experience teaches the seminar participant to replace pain centers A-Fear/Anger and B-Failure with pleasure centers E-Appreciation (joy and humor) and F-Creative Evaluation (curiosity, respect and support). See Figure 7.

Figure 6 shows full creative power release through activation and triangulation of major pleasure centers of the brain. When these major pleasure centers are functioning simultaneously, when the spontaneous participator (right brain) teams up with the guiding observer (left brain), taking command, the "perfect" drawing appears on the paper wholistically, complete in one long stroke of the pen.

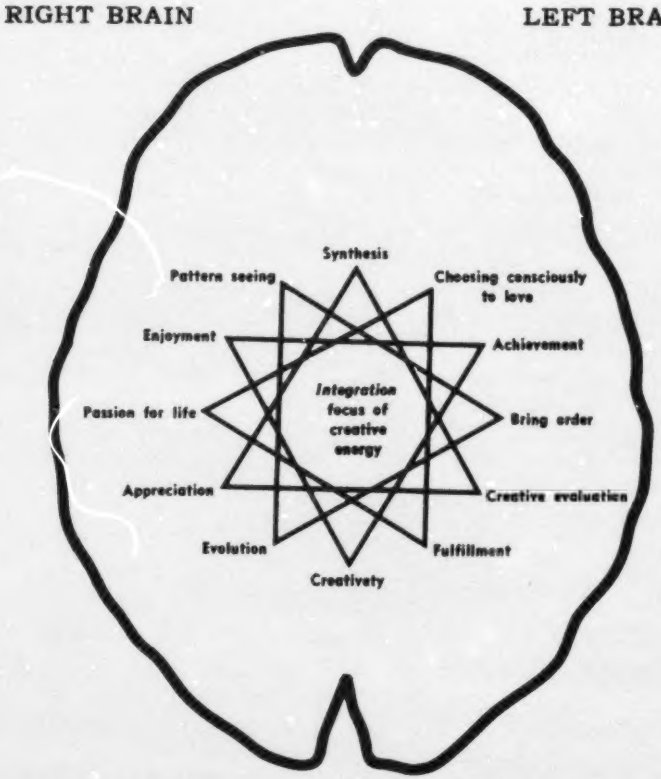


Fig. 7-Multi-Triangulations of Pleasure centers of both sides of the brain Focus creative energy for dynamic action and optimum performance.

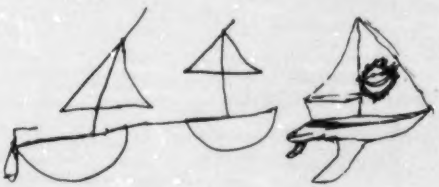
Spontaneous Response Drawing is not a gradually learned skill. It is an integrated psychophysical state of mind, the simultaneous awareness of being, knowing and doing. The integrated, multi-dimensional, creatively empowered person functions in full awareness of the simultaneity of action, reflection and creative energy release. His drawing reflects that full awareness.

Significance of Brain Integration for Education .

Brain Integration through Spontaneous Response Drawing is an effective tool in reorganizing learning disorganized persons (25% of our children), as well as accelerating the learning processes of the average child.

Case Study R.W.

The following three drawings show the brain integration progression of R.W., age 15. In Drawing 3B, his reading and writing skills improved at the same rate as his drawing. Drawing 3C shows a fully integrated, self-portrait; his performance in school, sports and personal fulfillment was equal to his drawing performance. The drawing took 5 minutes with no corrections and required focused attention, emotional maturity and balanced perception.



Drawing 3A. R.W., first seminar.

Drawing 3B. R.W., third seminar.

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Drawing 3C. R.W.,
fifth seminar.

This young man stated that before integration, he had fallen behind for 6 years in school because of poor reading ability. His family was very supportive and had taken him to many remedial sources for help, none of which turned out to be effective. R.W. states that when integration locked into place, it was experienced as a permanent change. He is now getting A's and B's in school, and is now on the Varsity Basketball team] Needless to say, his self image and physical coordination have greatly improved.

The transformative nature of brain integration and the Spontaneous Response Drawing Process:

(1) train the focus of attention for extended periods of time,

(2) integrate intellect, intuition (right and left brain),

(3) develop clear seeing and balances perceptual-motor skills,

(4) initiate creative process: pattern seeing and synthesis capabilities of integrated brain function,

(5) empower continuous, creative, decision-making capability,

(6) establish the real possibility of "championship" performance,

(7) release the joyful chemistries of the brain,

(8) open the door to universal information and natural genius,

(9) de-pattern conditioned behavior,

(10) awaken the experience of beauty in the heart,

(11) break open creative inspiration by tapping into universal energy, and

(12) develop capability for intimacy with self and others.

This process transfers spontaneously to many aspects of personal and

professional life! (Outstanding examples are sports, reading, creative expression in writing, poetry, art, academic comprehension, creative imagination, intimacy in relationships, inventiveness, and problem solving).

It has been our experience that even though integration is a permanent capability for brain function, the integrated person can still choose to perceive himself predominantly right brained, intuitive, uniquely aware of spatial orientations, timeless, unfocused at appropriate moments, or focused, sequential and ordered in appropriate moments. It becomes more and more evident that the human being in his brain/mind/emotions/spirit configuration is multi-dimensional, unlimited and ever-evolving when allowed to express his total capability. It is also evident that man's total capability is needed desperately to insure some kind of reasonable and dynamic future.

Multi-dimensional brain integration can contribute to returning creative power to individuals (all of us), who must become increasingly independent and responsible for making the best possible choices for our present and therefore our future.

Reference

Fuller, R.B. *Synergetics* . New York: Macmillan Publishing Co., 1975.

NOTE: Important contributions to this article were made by Joani Reilly - Director of Creative Arts Education at the Brain Integration Center.

La créativité et l'hémisphère droit du cerveau
Dans cet article on traite de l'intégration des deux hemisphères du cerveau par l'utilisation du dessin à main levée. Selon les auteurs, c'est grâce à la spontanéité, à la capacité de penser en images, à l'utilisation de l'hémisphère droit qu'on devient plus créateur.

Schöpferische Kraft im Gang: wie man das rechte Gehirn entdeckt
Es handelt sich in diesem Artikel um eine ununterbrochene Verbindungsintegrierung des linken und rechten Gehirns und deren Anwendung zur Beschleunigung des Lernprozesses. Die Fähigkeit zum Schreiben, Sprechen oder Zeichnen auf spontane Weise, während man am Bildströmen teilnimmt, ist die zum Ausdruck gebrachte und integrierte Funktion des linken/rechten Gehirns. Es ist die schöpferische Kraft im Gang.

Poder Creativo en Acción: Descubra el Hemisferio Derecho de su Mente
Este artículo se ocupa de la integración del hemisferio derecho e izquierdo de la mente a través de un esquema de línea continua y de su uso como un proceso de aprendizaje acelerado. La habilidad para escribir, hablar o dibujar de una manera espontanea y organizada, al mismo tiempo que se forma una corriente de imágenes es la energía expresada de las funciones integradas de los hemisferios izquierdo y derecho de la menta. Es el poder creativo en acción.

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J. of Suggestive-Accelerative Learning and Teaching, 1980, 5(1)

The Co-Creative Teacher: A Key Dimension in Accelerated Learning

Susan M. Campbell, Ph.D.

Abstract

The co-creative teacher, in assisting students in "learning how to learn," works essentially with two principles: Relationship and Evolution. In essence, when teaching in a co-creative way, we are embodying and teaching about principles of "right relationship" such as synergy and interdependence; and principles of evolution, such as how everything alive is growing toward increasing differentiation and integration.

Before we go too far into our discussion of the co-creative teacher, I'd like to engage you in a bit of a co-creative process. I'd like for you to consider with me the question, "what is the aim of education, anyway?... what is a teacher, then, trying to accomplish?" Think for a moment on this question, "what are we doing when we do this thing called teaching?"..... What comes to mind?

In almost all of these answers, there seems to be the element of "learning to learn," the idea that we as educators are teaching a *process* as much as we are teaching *content* or subject matter.

And what are the essentials of this "learning how to learn" process? What are we teaching when we help learners internalize this ability?

As I see it, the learning process involves two things: RELATIONSHIP and EVOLUTION. And these two things are what the co-creative teacher essentially deals with. We don't teach these things explicity, however. Rather, by our own understanding of these principles, we transmit to others a trust and excitement in the learning process.

EVOLUTION: nothing ever stays the same... we are continually letting go of old ways of seeing and being, and embracing new ways... continually expanding our senses of who we are and what we can do... each problem we encounter is resolved once we have the courage to face it; yet each resolution brings us to a new problem, often subtler and deeper than the last... life seems to be a continual journey without end.

RELATIONSHIP: everything is related to and interdependent with everything else... meaning emerges only when there is context or connectedness... learning *content* is easy once we have a framework.

The framework, or outline, for my talk today, then, centers around these two principles - these two essentials of every learning process - evolution and relationship. They are principles which guide the work of every co-creative teacher, which I'm defining as the teacher who works with these principles toward the aim that we agreed earlier is our objective in education — instilling in learners the capacity to continually learn, be creative, or transform themselves and their environment.

Before we go into these principles in depth, I want to gather some information from you again. This will be a kind of mini-research project, which I'm doing to cross-check the validity of my personal observations. Ready for the research question?... Think back over all the teachers you've ever had - in or outside of school - and choose the one who made the deepest or strongest positive impression on you. Recall as vividly as you can how you felt in this person's presence. Now, think of some incident that has stayed in your memory over the years - an incident which involved some interaction between you and your teacher. Take some time with yourself to really re-experience this scene and the feelings you had then. Now, I'd like you to come back to my notion of what is a co-creative teacher — to the question of whether or not your teacher seemed to understand something about evolution, about how things change over time; and about relationship, about the importance of the teacher-learner relationship to the learning process. And I'd like to ask you now to turn to someone sitting near you and share a little bit about this positive memory. ..... What observations and insights occurred to you?

We're building a common language here: I put in a little of my experience; then you put in some of yours; and pretty soon we'll have a shared idea of what co-creativity is.

And now back to RELATIONSHIP and EVOLUTION, our two essential ingredients in the co-creative process. Let's look more closely at what a co-creative teacher actually does.

First of all, a co-creative teacher behaves as if *in relationship* to something or someone beyond or outside of him- or herself: I am not just standing up here to hear myself talk... you and I are in dialogue. And it is not simply a verbal dialogue: Our "insides" are connecting or trying to connect also. Thus, there is a relationship between speaker and listener. And there is a relationship between what's inside us and what's outside - between our feelings, thoughts, or intuitions, and what we express outwardly... And usually the clearer the relationship between my insides and what I express, the clearer will be my relationship with you. So, everything is related to and interdependent with everything else.

An excellent illustration of this comes from some research that was done on teacher-student interdependence. An experiment was conducted to show the enormous impact students could have on teachers just by varying the type and quality of attention they gave. An English teacher who had two classes in the same subject, one in the morning and one in the afternoon, was chosen as the "subject." The researcher, before class began one day, instructed his morning class to be very attentive - hanging on the teacher's every word, laughing at all his jokes, making clear eye contact, nodding along with his key points. You can imagine the effect this had on the teacher. He became more and more clear, energetic and witty as the hour progressed. The afternoon class, however, was instructed by the researcher to act bored, to never make eye contact, to doodle instead of taking notes, and to feel free to doze off if they felt like it. And guess what happened to the teacher's perfor-

mance this time: he began to stumble on his words, his voice became a monotone; and soon he was reading his notes to himself, seemingly oblivious to the class sitting in front of him]

This experiment shows how we are all co-creating our reality together all of the time. You can "create" me as interesting or boring, depending upon the quality of attention you give to me. Likewise, I can "create" you as interesting or not. And related to this, the quality of attention I pay to *myself* as I speak to you can determine the quality of attention you will be moved to pay to me. So again, my relationship with myself and my relationship with you are related.

I'd like to share with you an activity that will give you a chance to experience the absolute validty of this principle. Choose a partner and sit facing one another. Decide who will be "peaches" and who will be "cream." Okay, for this first round, peaches will be the speaker and cream will listen. And here are your instructions: Peaches, you are to think of a recent insight that you had - about yourself, about life or about anything you're deeply interested in. And in a minute you are going to share this insight with cream. Now, my instructions to you, creams (and this is very important that you discipline yourselves to stick to my instructions) - you are going to look down at your lap while peaches is talking to you. You are to make no eye contact; and in fact, try to think of what you had to eat for dinner last night so as not to get hooked in to what peaches will be telling you. Is this clear? Okay, begin. .....sharing and discussion... Round #2....more sharing of the principles of relationship demonstrated by this activity, especially with regard to the effect of teacher expectations on learner performance.

It's time now to come back to the principle of EVOLUTION to see how this adds to our view of the co-creative process. Actually, evolution *is* a co-creative process. Two people or things come together *in relationship* and out of their relationship, a third thing, a *new* thing, is created. So, you and I begin to interact, and pretty soon, an energy or force is created between us. This force can be clear and positive or muddy and negative. And the quality of this energy force is in part determined by our individual "chemistries" or what we bring to the situation; and it is in part determined by our intentions, or what we *hope* to create together (as in the illustration a few minutes ago). The chemistry may be composed of a number of elements - not the least of which is the evolutionary force within each individual — it is that "drive in living matter to perfect itself" that the biologists are now discovering. And so any relationship has a "destiny" just as any individual. And perhaps there is in every relationship this "drive to perfect itself" — or a tendency to actualize a certain unique potential.

The co-creative teacher we've been talking about, then, would place a high value on each and every one of his or her relationships actualizing its true potential — not trying to become something that doesn't fit the needs of the persons involved — not trying to conform to a norm, so much as trying to make real the potential for relationship, and therefore learning, that is inherent within the relationship. This is obviously a

great challenge when we are "assigned" to roles in relation to each other - like teacher and student. However, the challenge is to discover what you *really* have to teach each other. Then, the assigned roles can be taken without threat to the true "destiny" of the relationship... In fact, when we are open to this idea that we are all teachers for each other, then we can consciously play our assigned roles in ways that enhance our true purpose.

To illustrate this, I'd like you to think with me for a moment of a relationship between yourself and one of your students, or someone you had a role-defined relationship with. Think of a relationship where you two had difficulty connecting. Perhaps you were trying to make the relationship into something that it could not be. But this is simply my hypothesis at the moment. What I'd like to invite you to do with me is to engage in a guided imagery process that may shed some light on the *true* nature of your relationship with this person. So let's begin by finding a comfortable posture, and taking a few full breaths to relax.

Now imagine yourselves standing together at the foot of a mountain path. As you start up the gently sloping trail, you feel the warm sun shining down on you... you smell the faint scent of wild flowers... you hear the babbling of a nearby mountain stream. The path is wide enough for you to walk side-by-side. and as you walk along together, you feel the warmth of the sun.

As your hike continues, the trail all-of-a-sudden gets narrower and more steeply sloping. No longer is it possible for you to walk side-by-side, The path soon becomes more of a climb than a walk, requiring you to use both hands at times to scale the steeper rockier parts... and requiring you at times to ask for help from each other. As the path becomes rockier and steeper, you experience some fear of losing your footing. The stress of the climb begins to affect your relationship.

After some time of such struggle, you come to a crossroads in the path. Before you are two possible choices: A steep, narrow trail heading straight ahead up towards the top of the mountain; and a more gently sloping path off to your right, which appears to circle round the mountain and arrive at the top after a longer but less strenuous climb.

Together you reflect upon what you have so far experienced together and consider the choice that faces you now. What thoughts, feelings, and questions come to you? Which path do you each choose?

Continue now to envision yourselves as you journey up the path of your choice. When, in your mind's eye, you reach the mountain top, what do you feel? And what do you do? Take as much time as you need to complete your fantasy. And when you are finished, open your eyes and bring your attention back to this room.

Now, before we share our experiences together, I'd like us to take a few moments to reflect on the relationship we "created" with this other person: how similar was your fantasy to how it was between you in real life? In what ways was it different and why do you think this was? Did you have a sense that during the imagery process, you were perhaps seeing beneath the assigned roles you had each been cast in?

Will you turn now to someone near you and reflect together on your experiences during this imagery process. .....what followed was sharing in large group and discussion, focusing on the questions outlined above- .....closing by summarizing what we have learned together — what we have co-created.

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Le professeur créateur--l'essence de SALT
Le professeur créateur qui désire aider les étudiants à mieux apprendre base son enseignement sur deux principes: intégration (synergie) et évolution (développement). Le professeur illustre ces deux principes par son comportement dans la salle de classe aussi bien que par sa présentation de la matière enseignée.

Der mitschöpferische Lehrer: eine Schlüsseldimension im schnellen Lernen.
Der mitschöpferische Lehrer, welcher dem Studenten beim "Lernen wie man lernt," behilflich ist, arbeitet im Wesentlichen mit zwei Prinzipien: Verhältnis und Evolution. Im Wesentlichen, wenn man auf mitschöpferische Weise lehrt, verkörpert und lehrt man über Grundsätze vom "richtigen Verhältnis," wie Synergie und gegenseitige Abhängigkeit. Auch lehrt man die Evolutionsprinzipien, wie, zum Beispiel: alles Lebende entwickelt eine zunehmende Unterschiedlichkeit und Vervollständigung.

El Professor Bi-creativo: Una Dimensión Clave en el Aprendizaje Acelerado
El professor bi-creative, cuando ayuda a los alumnos en "aprender cómo aprender" trabaja fundamentalmente con dos principios: Evolución y Relación. En eseencia, cuando se enseña en forma bi-creativa, incorporamos y enseñamos los principios de relaciones correctas, por ejemplo, la sinergía y la interdependencia; y principios de la evolución, por ejemplo, cómo todo lo vivo crece hacia un aumento de diferenciación e integración.

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The Application of Psychosynthesis to Accelerated Learning in the Classroom

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Abstract

This article is the modified script from a 1980 S.A.L.T. Conference presentation on a psychosynthesis model for classroom situations. The article points out that the practical framework provided by psychosynthesis allows for an integration of the whole student by involving the body, feelings and mind of the pupil. The process of synthesis includes the following steps: 1) Recognition that our personality consists of many divergent parts which are often in conflict with each other. 2) Acceptance of these parts, once recognized, allows us to utilize these energies and to integrate them into new ways. 3) The cooperation and integration of these conflicting parts brings them together into a working relationship. The article deals with subpersonalities on both the identification of and the disidentification with these parts of the personality. This deals specifically with the conflicting parts in most personalities of the eager, successful, accelerated learner and the pained, blocked and unsuccessful learner. A series of guided imagery exercises helps the student first identify the accelerated learner in himself/herself and get a real sense of what it is like to learn from the place of excitement and joy. The next exercise turns the focus to the pained learner and gives each person the chance to experience imagery he/she feels awkward and inept as a learner. The final phase of this subpersonality work is to begin the integration process by using guided imagery to create a sense of "choice" of who will be in charge of the learning process. The article finally focuses on the ability to create the ideal model of an accelerated learner in our experience. This uses imagery to evoke a model from within the student that is unencumbered with the expectations of others. With this type of exercise a student can begin to use his/her will to become the kind of learner he/she wants to be.

In our lifelong learning experiences one of the things we have learned best is how to limit ourselves. The purpose of this workshop and the presentation of psychosynthesis modeling is to step beyond our current way of seeing ourselves into a larger view of our natural capacity to learn, to teach, to play, to create, and to love.

The psychosynthesis model provides a practical framework and cooperates with the natural tendencies within each of us to harmonize and synthesize the many aspects of ourselves at higher levels of organization. The model provides an integration of the body, the feelings, and the mind, whereas traditional American education has placed emphasis on the mind primarily. The Lozanov method of suggestopedia includes this wider spectrum of relaxed body, calmed emotions, and alert and focused mind. True learning is experiential, involves the total being, and is both qualitatively and quantitatively different from the passivity and resistance most of us have endured. Real learning involves a shift in consciousness that includes the total person in the actual learning process. This kind of learning is dependent upon the will of the person and the individual choice to fully engage in the learning process.

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To illustrate this process and to provide a model of what can be used in most adult classrooms, the following exercise uses guided imagery to evoke willingness to be fully present in the classroom.

It is absolutely essential, when using these exercises, to allow enough time after each question or instruction to give the participants a chance to experience that particular part of the exercise. We will use the ellipsis mark (three spaced periods) to indicate the omission of the instructions to "pause while the participants get a chance to experience the question or instructions".

You will notice that each exercise begins with the relaxation instructions. This is essential in order to give the participants a chance to focus on their own inner process and to close out the interfering stimuli available wherever people are grouped.

Disidentify from Body, Feelings, and Mind

Take a moment to relax...take two really deep breaths and concentrate on releasing the tension you may be experiencing....

Recall your choice to attend the conference.... Go back to where you were and what you were doing when you chose to come.... What was it you were coming here for?... What was the quality or the energy behind that choice, the motivating force which really brought you here....

Recall the intent behind the decision to come. Why did you come?... Experience that answer for a moment. What were your feelings around this decision? Excitement?...resignation?... How might this choice affect your life? Now recall your choice to attend this particular workshop. Remember it was a choice over the others being presented at this moment. What was the attraction which brought you here?... How did it connect with your experience?... Focus on what you want from this workshop right now... Are you willing to be fully present?... What are some of your habit patterns which might prevent you from being here fully?... Perhaps drowsiness from a large lunch, poor concentration, or whatever.... Be aware of those things which might distract you from your intent.... Now again remember your reason for coming.... Are you willing to do whatever you need to do to get what it is you want from this experience?... Be aware of your choice.... When you are ready, bring yourself gently back into the room.... Take a few deep breaths, stretch if you like.

This process of synthesis, which means "to bring together at higher levels of organization", includes the following steps:

1) Recognition that our personality consists of many divergent parts which are often in conflict with each other.

2) Acceptance of these parts, once recognized, allows us to utilize these energies and to integrate them into new ways

3) The cooperation and integration of these conflicting parts brings them together into a working relationship.

These steps lead to a synthesis when the parts of ourselves become fused into a new way of being which is directed by the deep sense of knowing who we really are and what our limitless potential is.

Our ability and our students' ability to utilize the techniques for learning which have come from the Lozanov work depend more upon the concept we have of ourselves as learners than upon the mastery of the techniques. Our concept of ourselves is the basis upon which all our

learning takes place. In order for us to expand our learning capacities, we must first free up our inhibitions to learning, which we all developed in our life-learning experience, and reclaim the joy and excitement of learning--our original and natural state of being.

Subpersonality Identification and Disidentification

One of the important tools psychosynthesis has given us for learning, for increasing our capacity for learning and for teaching is the ability to identify parts of ourselves that get in our way for various kinds of growing experiences and to learn to disidentify from these parts. Once we have disidentified from these blocking parts of ourselves we have enormously enlarged our learning-growing capacity.

Sometimes the idea of introducing a student to various parts of himself/herself sounds a bit confusing. However, the concept is rather simple to introduce if you take the time to point out how we are different in the way we behave in different situations. For example, if your students are adolescents, just point to what different people they are with their best friend and their mother, grandmother, minister, school principal, and so on.

"Of course these differences are normal, because each of us has different selves--according to the relationships we have with other people, surroundings, groups, etc., and it is well for us not to identify ourselves with any of these 'selves', and to recognize that these are all roles that we play." (Assagioli, 1965).

The only way to gain control and choice in relationship to these parts of ourselves is to first of all recognize the part we are dealing with. Then the next steps, as previously defined, are acceptance, cooperation and integration.

Identifying the Accelerated Learner

First, let's take a look at the part of you that is the open accelerated learner. Recall a time from your past, perhaps recent past, perhaps your childhood, when you were excited about learning about something in particular and you seemed to catch on really fast.... Now, close your eyes...go inside yourself and remember that experience.... Allow yourself to recall the feelings.... Feel-remember that special learning experience.... Feel-remember the energy you felt...the enthusiasm. It may have been a game, a skill or even a subject in school.... Feel-remember the satisfaction.... Take a moment to step back and get a clear picture of how you must have looked while you were having that positive experience.... Notice what you were wearing.... Notice your posture.... Be aware of the look on your face.... Now keep this image of the accelerated learner in you. This is an image of that part of you that can learn in an open and accelerated way.

Give the group a chance for discussion and sharing both the images they recalled and the feelings associated with successful learning. This is an important time in the process and should not be short-changed even if the classroom gets a bit noisy. As the teacher, this is a good time for you to make individual contact with the students around these feelings. Design this to be a whole group discussion or divide them into small

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groups or pairs. If they are divided, be sure to circulate in order to hear, question and encourage these memories and feelings.

Identifying the Pained-Blocked Learner

I ask you, once again, to close your eyes.... Take a couple of deep breaths...and check your willingness to find that part of you that resists new learning.

We are looking for the part that often sabotages learning experiences. The saboteur is successful because we have no idea how to identify what is happening. Remember what the subject was...math...chemistry...foreign language...geometry...physics.... Whatever it was it was just awful for you.... Begin to remember what it was like to try so hard.... Remember the panic of being unprepared in class...the awful feelings you had as the teacher handed out tests...the guilt you felt afterwards and the fear of getting your paper handed back and having someone else see what grade you made.... Remember wishing you would get sick and not have to face up to either the test or the grading.... Just take a moment to re-live that private hell.... Now, I would invite you to step back and see yourself in that dilemma. Picture that young boy or girl or that adult who is struggling and trying so hard.... What you see may seem like a caricature of the pained learner. Take a few moments to just view that struggler.... See the pain that person is in.... Be aware of how you feel toward that person.... Imagine that you, as an adult, as the person you are at this conference, could walk into the scene with this blocked and pained learner. As you stand in his/her presence, what are your feelings toward that person?... Are you able to experience a feeling toward that pained person?... Imagine you could tell that person how you feel about him/her... what is his/her response?... Now I am going to ask you to do something a little more difficult. Become the pained struggling learner and see the adult who is standing in the room with you.... What is it like to be that pained person?... That adult who just told you how he/she feels about you. How do you feel toward that adult?... Tell him/her.... Now I am going to ask you to take a risk as the pained learner.... Tell the adult what you want from him/her.... What is the response?... Dialogue with that person about your wants.... Now take an even bigger risk and tell that adult what you really need from him/her.... And listen to the response.... Switch back again and become the adult looking at the child or pained learner who has risked telling you what he/she really wants. What are your feelings toward that person now?... Tell the pained learner what your feelings toward him/her are.... You are looking at the part of you that panics in certain learning situations.

Once again, bring the participants out of the exercise by asking them to very gently open their eyes and take a couple of deep breaths. Give a chance for feedback and discussion as described previously.

Beginning the Integration and the Move Toward Synthesis

Again, close your eyes and take a couple of deep breaths.... Be aware of your willingness to do this exercise.... When you are ready, begin to allow an image to emerge that has both your accelerated learner and your pained learner in it.... Take a moment to see the pained learner and recall his/her struggle.... Now focus on the accelerated or joyful learner.... Now, put both these learners in the same picture.... Recall your feelings toward each of them.... Regardless of how benevolent or how antagonistic you may feel toward the pained person...is this the person you want in charge of your learning?... Which one of these learners do you want in charge of your learning experience?... What if you always have a choice?... What if you can choose to learn from either the pained perspective or from the joyful perspective?... What if you...you, the adult...the observer...could be in charge and you could determine the roles these two persons could play in your learning experience?... Take a moment on that subject that was so hard for the pained learner and imagine the joyful learner dealing with that subject.... Now take this a step further and imagine yourself in a future learning experi-

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ence. Picture yourself learning something you have dreaded or been afraid to learn.... Imagine that you close your eyes a moment and ask that pained, scared learner to sit quietly beside you while you learn the subject at hand.... Just get a clear picture of what it would be like for you to always have a choice to get him/her to sit quietly, perhaps closely, but quietly, while you do the learning, the test, the presentation.

Once again be the observer seeing both the pained learner and the joyful accelerated learner.... From this observer place, would you tell these two persons that you will be in charge of learning and while you will acknowledge them and sometimes call on them, that from now on the choice is really yours.... Be aware of how they respond to you. You may see that there is more dialogue and understanding that needs to take place before you are all at ease with your positions.... If there seems to be unfinished business...will you make a commitment to these two parts of you to continue the dialogue later?....

Now let go of that scene and picture yourself as the teacher in your classroom.... Take a moment as a teacher to imagine your being able to train your students to take the pained learner out of being in charge. Take just a second to think about the most resistant learner in your classroom...imagine having a tool like this where you could guide Johnnette to get her pained learner to sit on the other side of the reading table or in the chair next to her while she learns to read....

Now very gently allow yourself to come back to this room and open your eyes.

Again, it is vital to the success of this exercise to allow time to share and discuss the various experiences.

Developing an "Ideal Model" of Yourself as a Learner

The creative imagination is a powerful tool for bringing forth forgotten or hidden capacity to fully use our natural intelligence. The creative imagination can be used to form an "ideal model", concept or self-image that is positive, realistic and attainable. A self-created image can resonate with its parallel in the unconscious, thus stimulating a dynamic potency. Imagery is the language of the unconscious, while the unconscious is an energy field which uses symbols to give form to the energy field of the psyche. Images are the transformers of this energy.

Creating an "ideal model" is the participation in the unconscious with the conscious self. The will and images must be in harmony with each other. For example: if a student wishes to be a successful learner but has an image of himself or herself as intellectually inadequate and a failure, the image must be resolved so that a positive image is available that can be in harmony with one's desired choice. Otherwise, the negative image continues to perpetuate the undesired outcome. This Baudoin (1922) called the "Law of Subconscious Finalism"; now it's also called "self-fulfilling prophecy."

A mental picture of the aim to be attained starts an activity in the unconscious directed toward the accomplishment of the aim. For teachers, it is necessary to recognize that the self-created ideal model image often needs a period of incubation, during which it is advisable to allow the unconscious to work without further interference from the conscious will.

The psychological law that describes the principle, "Energy follows thought" is, "Images evoke their corresponding feelings and actions". Creating a positive image of oneself as a learner can thus elicit corresponding feelings of promise and success. Action, in terms of elevating level of learning, begins to take place. One must image before an action can take place.

The "ideal model" exercise is not an ultimate model of perfection, but represents the next chosen step in the development of a positive self

image as a student and capable learner. The desired image is clarified, chosen, and strengthened, building the qualities that relate to the image. The establishment of a more effective image pattern takes place. It is therefore a realistic model of inner and outer living, toward which we can move, and which we can gradually modify and expand as we grow into the image and change.

Creating an ideal model is the participation in the unconscious with the conscious self. Will and images can work together to transform energy of stuck or negative images. What we tell ourselves about learning is not enough. A positive image must be available. Thus available, it creates a dynamic potency.

Ideal Model Exercise

1. Close your eyes....Center...relax body...feelings...mind.... Take a couple of deep breaths.

2. Let's look at expectations that we have imposed upon ourselves. How I think I should be as a learner?...

3. How others think I should be as a learner?...

a. Where did these messages come from?...

b. Now allow yourself to set the shoulds aside....

4. Now let us create a fresh and dynamic model of ourselves that is our own unique expression of who we are as learners. Let's re-discover our true nature, the self that takes delight in learning, in discovery, in life. Imagine yourself in a beautiful meadow in the springtime.... You are open to the beauty of nature.... There is an excitement and a curiosity about all that there is to discover here. Look around to see the wonders of nature. Plants...flowers in their many colors. Insects...birds...butterflies...animals. Notice how quickly you learn.... Notice how your body feels.... Notice what your feelings are experiencing.... See how you are utilizing your whole body...your feelings...your mind...and imagination. You are relaxed and learning more quickly than ever before.... Notice how you feel about yourself and just drink in the good feelings.... There is a deep sense of satisfaction as you make the many discoveries in this meadow....

5. Be with this image, notice the qualities that were expressed in this experience. What qualities did you express? Possibly openness. Ease...wonder...excitement...joy. Be with the experience of these qualities....

6. To deepen this experience, allow yourself to make a conscious choice to bring these qualities into your life.

a. See yourself at home experiencing and expressing the qualities of your "ideal model"....

b. See yourself in your professional life with this naturalness and openness...with the excitement of learning....

c. And now see yourself at this conference, bringing these qualities into the talks and workshops here.... Experience the satisfaction at the end of the conference of having learned how to accelerate your learning, easily and joyfully.... Feel the satisfaction of having developed new friendships, and of having participated in launching "Education into the 80s"....

7. Share with the person next to you. Share what this experience was like for you. Discuss the application of this exercise for children in the classroom.

This exercise can be repeated intermittently, allowing incubation time in between its use.

We strongly encourage that those who are interested in developing both a deeper understanding and more extensive application of psychosynthesis to the classroom seek out written materials and training programs. This seminar is intended to be only representative of the possibilities of the use of psychosynthesis in the classroom. We wish to

emphasize that the full process of identifying, accepting and integrating the subpersonalities, or parts, is only indicated by the structure of these exercises and is not fully achievable within this limited structure. We also point out that the synthesis of the personality moving toward alignment, first with the personal self and then the Transpersonal Self, is a natural process that can be aided with the use of psychosynthesis.

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La psychosynthèse et SALT

Basé sur une présentation faite lors du colloque SALT en 1980, cet article présente aux professeurs un modèle psychosynthétique qu'ils pourraient utiliser dans la salle de classe. La psychosynthèse sert à développer l'étudiant en intégrant les divers aspects de sa personnalité, en utilisant au mieux son énergie et sa créativité. Et les étudiants doués et les étudiants moins aptes peuvent profiter des exercices de visualisation psychosynthétiques qui s'adressent d'abord à l'inconscient et ensuite à la conscience de l'individu en tant que tel.

Die Verwendung von Psychosynthese auf schnelles Lernen im Klassenzimmer

Dieser Artikel ist der umgearbeitete Text eines Vortrages, welcher bei der S.A.L.T. Tagung von 1980 gehalten worden war, über ein psychosynthetisches Modell für Klassenzimmersituationen. Der Artikel weist darauf hin, daß die praktische Struktur, welche von der Psychosynthese geliefert wird, die Einbeziehung von Körper, Gefühlen und Geist des Schülers gestattet. Die Entwicklung der Synthese schließt folgende Schritte ein: 1) Die Erkenntnis, daß unsere Persönlichkeit aus vielen auseinandergehenden Bestandteilen zusammengesetzt ist, welche oft im Widerspruch miteinander stehen. 2) Die Akzeptierung dieser Bestandteile, nachdem sie erkannt wurden, erlaubt uns dann, von diesen Energien Gebrauch zu machen und sie in neue Wege einzugliedern. 3) Die Zusammenarbeit und Eingliederung dieser im Widerspruch stehenden Teile bringt sie in ein funktionierendes Verhältnis zusammen. Der Artikel behandelt die Nebenpersönlichkeiten beider Kategorien, diejenigen, die sich angliedern, und diejenigen, die im Widerspruch mit der Hauptpersönlichkeit sind. Es behandelt speziell die im Widerspruch befindlichen Teile in den meisten Persönlichkeiten, welche eifrige, erfolgreiche und schnelle Lerner sind, sowie diejenigen, die leidend, gehemmt und erfolglos im Lernen sind. Eine Serie von gelenkten Bildformulierungsübungen hilft dem Schüler, zuerst den schnellen Lerner in sich selbst erkennen und begreifen, wie es ist, wenn man mit Freude und Erregung lernt. In der nächsten Übung wird der leidende Schüler in den Mittelpunkt gestellt, dies gibt jeder Person die Gelegenheit, sich in der

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Rolle des ungeschickten und unfähigen Lernenden bildlich zu erleben. In der letzten Phase dieser Arbeit mit den Nebenpersönlichkeitenwird der Eingliederungsfortgang durch gelenkte Bilderformulierung begonnen, um ein Gefühl der Wahl zu schaffen, welches gestattet, daß die Person wählen kann, wer den Lernverlauf leitet. Schließlich konzentriert sich der Artikel auf die Möglichkeit der Schaffung eines idealen Modells des schnell Lernenden entsprechend unserer Erfahrung. Dabei werden Bilder verwendet, welche ein Modell im Schüler hervorrufen, das von Erwartungen anderer unberührt ist. Durch diese Übungen kann ein Schüler seinen Willen einsetzen, um ein Lernender nach seinem Wunsch zu werden.

La Aplicación del Psicosíntesis a la Enseñanza Acelerada en el Aula

Este artículo es una modificación de una presentación en la Conferencia de S.A.L.T. 1980 sobre un modelo de psicosíntesis para situaciones que surgen en el aula. El artículo menciona que la estructura práctica propuesta por la psicosíntesis permite la integración de todos los aspectos del alumno, integrando su mente, sentimientos, y desenvolvimiento físico. El processo de síntesis incluye las siguientes etapas: 1) El reconocimiento de que nuestra personalidad consiste en muchos aspectos diferentes a menudo en conflicte unos con otros. 2) La Aceptación de lo anterior, que una vez reconocida, permite la utilización de esas energías y su integración en nuevas formas. 3) La cooperación e integración de estos aspectos conflictivos los reúnen en una relación practicable. El artículo trate de subpersonalidades y ambas la identificación y la desidentificación de esos aspectos de la personalidad. Este se ocupa específicamente de los aspectos conflictivos en la mayoría de las personalidades del estudiante con deseo, éxito y habilidad y del estudiante con dificultades, problemas, y fracasos. Una serie de ejercicios de imágenes sugeridas ayuda al alumno primero a identificar sus posibiladades y obtener una verdadera apreciación de lo que es el aprendizaje con anticipación y alegría. El siguiente ejercicio enfoca al alumno con dificultades y le da la oportunidad de apreciar los problemas de su aprendizaje. La última etapa de este trabajo con la subpersonalidad es el comienzo del proceso de integración usando imágenes sugeridas para crear un sentido de "selección" de quién se encargará del proceso de aprendizaje. El artículo finalmente enfoca la habilidad de crear un modelo ideal de aprendizaje acelerado en nuestra experiencia. Este usa imágenes para evocar un modelo en el estudiante que no está limitado por las opiniones de los otros. Con este tipo de ejercicio el alumno puede comenzar a convertirse en un estudiante de provecho.

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Education of the Gifted in Utopia*

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Abstract

The author describes in some detail the possible future education of children under utopian conditions. Aspects of the curriculum are individual development, human species development, creativity, somatic education, math and science, communication, imagery and philosophy.

I've decided to scrap the speech I had originally prepared for this occasion in favor of telling you about a curious experience which recently occurred to me. I suppose the inciting episode was listening to a brilliant and futuristic presentation by Paul Torrance at the APA meeting in San Francisco last August. By chance at the same time I was rereading *Island* by Aldous Huxley (1963). If you know about Huxley's last novel, you know it was a vision of a future island utopia. Apparently, the combination worked on my dream imagery one night, for I found myself visiting a school for gifted children in the year 2000.

As you know many things which you take for granted in a dream are not quite clear afterwards, so I cannot tell you where the school was, at what grade level the classes were, whether the curriculum I observed applied only to the gifted or to a larger group, nor even how the gifted were defined. I cannot be specific as to length of these "mini-courses" though obviously they were shorter than the Carnegie unit; likewise, I don't know anything about the departmentalization or administration which produced this program. What I do know is that I saw scenes from classrooms used to develop talent and creativity, and that these words were understood in much wider context than we now consider them. I am sorry not to be more specific about this dream of the future, but in such visions we look through a glass darkly and should not be surprised that all corners are not equally illuminated.

The dream, with its many scenes of classroom operation, produced a profound impression on me, which caused me to remember many key phrases although in some cases I do not recall exactly what they meant, though it seemed clear enough at the time. To help elicit these memories from the preconscious, I have not hesitated to break into the dream narrative, by quotations from eminent writers which appear to my conscious mind to bear on the same or a similar subject. I hope it is understood that these efforts of scholarship are interpolations made in an

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attempt to clarify ideas, concepts or phrases which may not be completely clear otherwise. Finally, I would point out in answer to possible criticism from curriculum experts that such material is better adapted to college level than to secondary or elementary children that the history of education is a history of the "trickling down" of curriculum from higher to lower levels, which, indeed must take place if children are to catch up with the increasing amount of material to learn each generation.

I have also divided the class scenes up by sections, due probably to the way I operate analytically. This division, however, was not apparent in the dream, where one thing seemed to flow into another, and everything seemed connected to everything else. I have, therefore, for purposes of clarity, divided up the scenes into eight categories, but this may be artificial and arbitrary.

I should perhaps also add in postscript to this introduction, that while I do not remember any of the usual classroom material being taught, this may be because I only remember the unusual and novel aspects; so I do not wish to imply that in such a school there would be no basics.

I Genotypics and Biologetics

A great deal of emphasis was devoted to an understanding of the development of the individual in all aspects, - cognitive, affective and psychomotor. The basis was the Piaget-Erikson developmental stage theory, with its five aspects of escalation: succession, discontinuity, emergence, differentiation and integration. This was regarded as the carrying over of the quantum principles to behavioral science, and it was believed that students should study every aspect of their own development, including the physical. A great deal of attention was paid to physical and mental health, including endocrine intervention to make bodies more healthy and beautiful, and to maintenance group counseling to monitor mental health. A candid and explicit course in human sexuality and marriage was carried on in a very scientific manner, so that people knew all about themselves. But the thrust of these efforts was not toward sex or aggression as with us, but more in the direction of the full flowering of the individual and his enhanced options and powers.

Says Huxley (1963:206)

> What are boys and girls for in America? Answer: For mass consumption, mass communications, mass advertising, mass opiates... Whereas in Russia boys and girls are for strengthening the state... What are (our) boys and girls for?... For actualizing; for being turned into full-blown human beings... To become what you really are...

This impetus toward self-actualization was seen in several ways: (1) An emphasis upon a transition from formal operations (convergent thinking) to creativity (divergent production) in the secondary school years. (2) An emphasis on ego development and self-esteem in adolescents, but an equal emphasis on the fact that such personal development

also involved ego-dispersal in the later stages, first in love of another, then in nurturance of children, finally in altruism to society.

Genotypics also included biographics, a selective study of the biographies of geniuses and creative persons, but with a different sort of emphasis than would be given today. For these outstanding lives were analyzed in accordance with critical stages and environmental pressures or advantages which occurred at those periods. The Land (1972) theories of accretive, replicative, and mutualistic growth, and developmental stage theory were used to measure the success of development towards self-actualization in the individual, of which creativity was an unfailing element. The analysis of the struggles of genius, especially in the early years, and particularly the obstacles placed by the *status quo* in the path of advanced thinkers helped the students to identify with these protagonists, and so with their problems, which were soon to become their own.

Shot through this entire study of individual development was the concept of consciousness, which was considered to be a major variable, though admittedly undefined. Nevertheless, it was in constant evidence, in discussion, in reference, and in thought, so that major or minor changes in consciousness, and different states of consciousness were issues of the first importance. I detected three different emphases here than those I was familiar with. First, consciousness was spoken of as a singular which did not seem to have a plural; second, there was attention to and study of various altered states of consciousness; and third, the singularity of each state of consciousness was seen justified by the fact that there appeared to be a set of common precepts for each state, which were dependent on that state, the precepts of the normal state being that of our ordinary physical universe.

II Phenotypics and Ecologetics

As the first area of genotypics had referred to the development of the individual, this referred to the development of the species. As with the former area, the emphasis here was on flow and development rather than on a static view of mankind; for mankind was here seen in process of change, an extentialist view of being and becoming if you will. Among mini-courses, there were those in energetics (the use of life energies, including some we do not now understand), ecology, (a better appreciation of spaceship earth and the conservation of its resources), utopias (from Plato to Huxley), futuristics (the study of and planning for the future); species evolution (and the directions to which a few present geniuses pointed), social policy (especially a study of which subgroup each culture systematically persecuted; and how this could be avoided), historics from a dynamic point of view (a la Toynbee and Spengler), and finally something which the students called "the glass bead game" after the book of the same title by Hesse (1969).

Since *The Glass Bead Game* referred to the book of the same title by Herman Hesse (1969), I looked up the reference in an effort to gain a better understanding of the game, and abstracted the following explanation from pages 31-40:

The game was first nothing more than a witty method for developing memory and ingenuity among students and musicians....though it has long ceased to have anything to do with glass beads. The inventor....an eccentric.....but humane musicologist used glass beads instead of letters, numerals, notes and other .....symbols..... One player would call out.....motifs or initial bars.....whereupon the other had to respond with a continuation.....a contrasting theme..... it was an exercise in memory and improvisation.....

Two or three decades later the Game.....was taken over by mathematicians..... The mathematicians brought the game to a high degree of flexibility, so that it began to acquire something approaching a consciousness of itself..... It was now so far developed that it was capable of expressing mathematical processes by special symbols and abbreviations..... At various times the Game was taken up and imitated by nearly all the scientific and scholarly disciplines..... classical philology and logic.....the visual arts.....architecture..... Thereafter more and more new relations, analogies and correspondences were discovered among the abstract formulas obtained..... The astronomers, the classicists, the scholastics, the music students all played the Game according to their ingenious rules..... It was at this point that (an innovator) applied himself to this problem (of diversity)..... He invented for the Glass Bead Game the principles of a new language, a language of symbols and formulas in which mathematics and music played an equal part..... so that the game evolved into the quintessence of intellectuality and art..... the mystic unity of all separate members of the universe of letters.....

Another aspect of Phenotypics was a thorough discussion of the creativogenic society, — the society in which creativity maximally flourishes. Present initial research by Kroeber, (1944), Gray, (1966), Arieti, (1976), and others had been expanded in the intervening years, so that there was complete knowledge about what kind of society and social institutions were maximally capable of producing each kind or category of creative talent. Particularly useful (and presently non-existent) research had been done on the specific social sanctions which prevent or dull creativity in women. All this was presented and studied factually, so that adolescents might be forewarned. Peer group support through special seminars, and extensive guidance, especially for gifted girls helped to ameliorate the often severe social and group pressures against adolescent creativity or divergence.

III Creativity

I was pleased to see that creativity at last had a solid part in the curriculum, being taught directly not as an adjunct to another course. Among the familiar methods taught were those of Guilford (the SOI), Parnes (The Creative Education Foundation) and Torrance, as was synectics, and brainstorming. Further advances on the SOI applications by Williams and Meeker had been made, and autogenic training was offered, though this bridged into the right hemisphere area. There was a great deal of practice in workbooks which bespoke further revisions of the ACTIONBOOK. Tests by Torrance, Khatena, Treffinger, and others here present, were used to measure creativity. Among the persons presently neglected but utilized in this curriculum was that of Upton, (1963) especially on analogy. The development of thinking from categorization, to analogy and finally to isomorphics (a study of the equivalence in analogies) was emphasized. Bertalanffy, (1968:81ff) the founder of general systems theory, notes that it depends on isomorphisms, which in turn rest on cognition, and organization. He points out analogy (superficial similarity), homologies (identical basic laws in different disciplines)

and the explanation of specific laws as special cases. He concludes that these general notions "acquire exact expression...only in mathematical language."

While there was a great deal more follow-through elaboration on these courses than any we have, I realized that of all the areas I dreamed about, this was the one where the rationale and paradigms were mainly in place, and where the major impetus for the future lay in development and production.

IV Somatics

This area is perhaps nearest to our physical education, though with a profound difference. Where ours was on group skills which often led to aggression, and team rivalries, theirs seemed to be on individual bodily exercises which reduced stress and contributed to health. While our physical education exalted youth, theirs was a preparation for life long body exercises which produced vigor in maturity and old age. The Hindu asanas, daily bodily exercises of hatha yoga had been modified for western adolescents, and were much in evidence. *Tai chi* (rhythm body movement which seems to promote meditation in movement) was also featured. But perhaps the most important innovation I saw was Reichian breathing and other unstressing devices, such as chanting, rolfing and re-evaluation counseling which were used for getting out anger, and other negative emotions. The "hostillectomy" sessions were daily and even constant rituals for the purpose of immediately dissipating anger in the circumstance where it arose, for stress was not allowed to accumulate.

As usual Huxley (1963:212) had anticipated it:

> An angry or frustrated child has worked up enough power for a burst of crying, or bad language, or a fight. If the power generated is sufficient for any of these things, it's sufficient for running or dancing,more than sufficient for five deep breaths..... An irritated person who takes five deep breaths releases a lot of tension, and so makes it easier for himself to behave rationally. So we teach our children all kinds of breathing games, to be played whenever they're angry or upset. Some of the games are competitive.....

A kind of Orff *Schulewerk* , a chanting, stamping, noisy dance was also employed both to reduce tension, exercise muscles and establish learning through rhythms. Somatics of most kinds seemed to involve music. And I should here add that there was much evidence of music and art in the schoolrooms, but I took this for granted in such a place.

V Phenomena of the Normal State of Consciousness

This area included what we should call science and mathematics, but with the subtle difference that the heading implies: namely, that all physical phenomena were junior to the ordinary state of consciousness. There were mini-courses in astrophysics, particle physics and astronomy so set up that they could be understood by non-science majors. There seemed to be more emphasis on nuclear, sub-nuclear and astronomical aspects of physics, than with us. Mathematics consisted of more emphasis on exponential functions, binary notations and logs, statistics, group and set theory, and computer and artificial languages. Their interest in science seemed more open-ended than ours, more willing to consider the observer as interacting with the experiment, and more able

to accept the non-tangible nature of subparticle reality. There were also references to matters to which I did not understand, but which were understood by the students without explanation, as though there had been a great deal of breakthrough discoveries in science since the present.

One new scientific study which impressed me was "synchrony", which, as near as I can explain, was a study of co-incidence in time, space and magnitude. (I have used the hyphen to indicate that it was more than coincidence, although something like it.) It was also more than Jungian synchronicity, though again, something like it. It had a lot to do with resonance on the same frequency, and the phenomena of sidebands and beats when the frequency or other magnitudes were almost but not quite equal. It was obvious that there had been a scientific breakthrough in the intervening years which directed more emphasis to this whole concept and in a different way than I was able to understand. Scientific ethics was also a part of this unit.

In the area of scientific theory, I was especially interested in another shift in emphasis. Whereas I had been taught science as if the theory was true, these young people were exploring science to find out which of several alternate theories was most heuristic, that is to see which theory gave them the most practical mileage in understanding and predicting the widest range of events. There appeared to be no thought or consideration given to the fact that one theory was "true" and the others "false", or that one theory was "truer" than another. This kind of freedom encouraged the development of independent hypotheses, of which no one was ashamed if they didn't work very well. It also, for reasons which escaped me, encouraged mathematical but non-physical models such as those of simple finite groups of three and four (which had much earlier been envisaged for quark models). There was also more emphasis on the probability function attached to the "truth" value of theories. This was apparently a newly invented statistic, which enabled one to qualify a theory or hypothesis with the confidence level of credibility which one should attach to it.

A final point that I keenly remember from the dream was that history had also changed its emphasis from a history of politics, government, war and battles to a history of science and art, for it was evidently felt that the historical progression of ideas liberating man was more important than the historical progression of laws liberating mankind.

When I asked why there was not advanced laboratory work in biologic manipulation of DNA and RNA cells, I was told that recombinant and other advanced techniques were forbidden on the secondary level as they were considered too dangerous. d techniques were forbidden on the secondary level as they were considered too dai gerous.

VI Communication

Instead of language arts in this dream of the future, there was something called "communication." It started with communication theory, a completely different way of looking at the process in the manner of MacLuhan or Chomsky. This was then divided into verbal and non-verbal methods. On the verbal side, it led to a study of phonetics, then comparative philology, including both foreign and artificial languages which some students tried their hand in constructing. Also stressed was the importance of meaning, the concept of a single semantic for each word, and the extensional and intensional use of words. The restricting aspect of language, as seen in tensed verbs which divide time into arbitrary parts, was discussed. On the non-verbal side, it led to a study of gesture, expression in the body, dancing, empathy,

intuition, archetypes, images, dreams, ritual, and art — all forms of interpersonal communication in the non-verbal mode.

A directive intensive journal method of creative writing was universally employed, so that every student had a personal journal in which he wrote every day, often after a reverie or incubation period. The journal was divided into different parts (a la Progoff, 1974), namely daily log, stepping stones, twilight imagery, time-life dimension, dialog with persons, events dream log, and inner wisdom dialog. Students became facile in self-examination and expression. Also, the journal served as an outlet and a confessional for those who needed it, but its contents were private and need not be divulged, but they could be read to the teacher, counselor or class if desired, and many fine pieces of poetry and other creative writing resulted.

The development of the ego and its dispersal in genotypics, had a parallel in the categorization of meaning and then its extension to several meanings in a further study called "meta-symbolic calculus" in which symbols acquired several meanings, and one constructed running prose punning on the double or triple meanings. This seemed so clear in my dream, but is now so difficult to explain. It is a little like saying: "If you don't go to other people's funerals, they won't come to yours," which is ludicrous at one level but true at another. There seems now little difference between this study and that of the glass bead game, but they seemed distinct at the time. To paraphrase Guilford, when one is dealing with divergent production of semantic transformations and implications, it is difficult to separate the general from the particular.

Some of this had already been predicted by our best minds.

Says Upton (1961:228) in summarizing a brilliant analysis of semantics:

> The law of essential ambiguity...is an expression of the idea that if language is to function as the servo-mechanism of a community of free minds, some of its symbols must be conveniently polysemantic, and most of them must be free to become so.

The idea that a symbol can act not only as a constant, but also as a variable, moving in meaning from one value of a parameter to another with change in development or social custom is a powerful but necessary advantage of language. The 21st century education took fuller advantage of this, thereby discovering generalizations such as, "Bad exchanges drive out good exchanges," which is true whether the medium of exchange is currency, barter, or common courtesy. Such flexibility in thinking was developed by the "meta-symbolic calculus" that students were always able to see the forest rather than the trees, and deal with symbolic transformations with ease.

VII Incubation and Imagery

Perhaps nowhere did the curriculum of this dream school depart more from present standards than in the emphasis paid to using incubation to develop imagery. The paradigm employed here is that when through various incubation techniques the dominance of the left cerebral hemisphere is broken, imagery occurs in the right hemisphere (similarly to that on a TV screen), and that such images can be transferred to verbal creative output by the left hemisphere, or directly to artistic output by the right hemisphere.

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Incubation (as its discoverer Wallas, 1926, noted) involves techniques of relaxation, so that the hold of the cognitive left hemisphere on consciousness can be allayed. Fantasy, revery, and dreams are common names for the spontaneous appearance of this faculty, though future educators were not willing to wait for that to happen by itself, but had developed methods for stimulating it in the classroom. As a matter of fact, I was told: "When the study of creativity was new, people tried to stimulate it through facilitating preparation, which is a necessary but not a suffucient condition for it. We, having done that, try also to stimulate it through incubation, — and this is the major advance."

Incubation started with laboratory work in guided imagery. In a quiet and shuttered classroom, musical records with various provocative sounds similar to those produced by Torrance and Khatena were played and a few simple suggestions from the teacher sufficed to start creative imagination flowing. Some product, a drawing, a piece of writing, or a solution to a problem usually came out of these sessions.

Next came training in something called "withdrawal" although the nearest synonym we have for what was done would perhaps be meditation. It was recognized that withdrawal from the tyranny of the percepts was the final step in the liberation of the consciousness begun by Piagetian "decentering" and by the freeing which subjunctive contingency gives to the formal operations stage over the tyranny of the present indicative in the concrete operations stage. Objectivity, according to their views could only be found by total disengagement from the object at least for a time. It was realized that different temperaments needed different methods here so a number were taught, including eastern and western meditation, psychosynthesis, autogenic training, something called BEST, Nichirin Shosho chanting, and several others. Students were encouraged in the private, daily use of whichever one they liked the best.

A final and most surprising aspect to this unusual area of curriculum was work in time distortion. (Again checking Huxley 1963:210, I read "And it is only in very deep trance that a person can be taught to distort time"). Not all students could learn this, but for those who could the advantages were obvious, — very rapid learning, which was equivalent to quasi artificial genius. (In disbelief, I again read in Huxley 1963:210):

> Short cuts to memorizing ... short cuts to calculating and thinking and problem solving ..... You listen to the teacher's suggestions and you sit there for a long, long time ..... When you've been brought back, you look at your watch. Your experience of two hours was telescoped into exactly four minutes of clock time ..... Result: I was able to cover far more ground than I could possibly have covered ... in the ordinary way. You can imagine what happens when somebody with a genius IQ is also capable of time distortion.

Although I was much interested in this spectacular method of enhancement of intelligence, I was not given much further information about it as it was probable that even they did not fully understand it. When I asked about this, they replied by a question, "Did the fact that you don't understand what electricity is, keep you from using it?" I was told, however, that in a few precocious individuals, such powers could be extended into telepathy and precognition, although psychologists were concerned about possible harmful effects of developmental forcing in this sensitive area.

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VIII Philosophics and Theoretics

These experiences were a sort of capstone, combining many other aspects under a common head. Again it is necessary to explain that students "played" with theory rather than espousing belief; consequently there was not the personal investment in "letting-go" an old concept and trying out a new one. First there was a review of communications theory, and of major world religions, but again in a very detached way, from a point of view of developing a repertoire of theories, rather than as articles of belief.

Then there was a study of general systems which saw all thought as unified in process under a diversity of forms and applications. Each science and discipline was isomorphic to every other science, except that it had special variables and constants. Bertalanffy (1968:38) states that the purposes and aims of general systems theory as:

> A tendency toward integration, centered in a general theory of systems, aiming at exact theory in nonphysical fields, which develop universal principles toward a goal of unity in science which can lead to integration in scientific education.

In this logic and mathematics played a leading part.

General systems were followed by a study of major paradigms and homologues, which synthesized and summarized earlier isomorphic relationships in the creativity studies. Among those which were familiar to me were the complementarity principle in physics, the quantum theory of discontinuity, the Pribram hologram model, the right hemisphere analogue to a radio receiver, and several others, although some which had been discovered in the intervening years were quite beyond me.

Finally, there was an introductory study of noetics, the analysis of mind and consciousness. Much of this was beyond me, but there seemed to be some equivalence made between the inner world of the mind, and the outer world of events and things, as if each were the inverse of the other. It was obvious that a great deal of progress had been made in this area.

Two writers, Carl Jung and Teilhard de Chardin, especially figured in this area. The former was remembered for his concepts of archetypes and the "collective unconscious" both of which were seen as generating entities or motifs in noetics. The latter was remembered for his concept of the "noosphere" which was his term for consciousness. Describing it he said (1961:180):

> The biological change of state terminating in the awakening of thought does not merely represent a critical point that the individual or the species must pass through. Vaster than that, it affects life itself in its organic totality, and consequently it marks a transformation affecting the state of the entire planet.

The Wild Rose Analogue

I wish I could remember a more satisfactory conclusion to this dream, which left many questions unanswered, but as suddenly as it had come, it vanished, and I was walking through an enormous field of wild red roses. "How many roses are there here?" said a voice. "Oh, at least a

million," I answered. "Are there any sports among them?" the voice queried. "Yes, here is one," said I, appropriately sighting one which had flecks of white on its petals. "And how many such sports do you think there are here?" asked the voice. "Oh, probably a thousand, if one assumes that once every thousand roses there is some mutant variation." "And could these mutants be developed into distinctive colors and patterns?" inquired the voice. "Of course, for that is the way our domestic varieties originated," I replied. "Ah," said the voice, "but you had to have a gardener who believed in the possibility of such development and then set about to accomplish it." "That is true," I agreed.

There are many more children than roses, and they are much more important. Do some of them have talents and potential in exotic abilites which we do not even understand, and so cannot begin to stimulate? The gardener has produced a domesticated rose much bigger and more beautiful than the wild variety; could we do the same with children? But who will be the gardener for humanity? What are the talents of man? Are we sure we know them all? What if any are the boundaries of his abilities? Or are they as evanescent as was the limit of the four minute mile? What might we accomplish if we truly educated our children for the maximation of all talents which they possess?

A century ago lightning calculators were exhibited as side-show freaks. Since my dream I am haunted by the nagging possibility that some children possess similar exotic talents, which, because they are not appreciated by society, are not cultivated or stimulated, and we are therefore back looking at the wild rose mutation, rather than visualizing what it might become with husbandry. What are some of the possible powers of mankind?

Could empathy, for example extend to telepathy? Could spatial visualization extend to non-spatial visualization? Could intellectual accretion and learning become telescoped into instantaneous knowledge and understanding? Some otherwise saintly and truthful mystics have told us that this is so. And it might not be amiss to check out this possibility.

Hunt and Draper (1977:20) tell us of the powers of the electrical wizard Nicola Tesla:

> He was conscious of certain phenomena before his eyes which others could not see. He envisioned objects and hypotheses with such reality and clarity that he was uncertain whether they did nor did not exist.

Before we regard Tesla's powers as miraculous or his biographers as liars, let us remember that when a picture of the scene is chromokeyed behind a newscaster as he describes a news event, we do not react in disbelief, nor do we when we see a virtual image in a holographic display. Science has sanctified these miracles, so we believe them though most of us cannot explain their technology. If geniuses like Tesla are forerunners, then it might be useful to recognize the possibility of such unusual talents and begin to study how to develop them in others.

In conclusion, let me go back to the speech of Huxley's minister of education (1963:208): on the child and his potentialities:

> How does he do his thinking, perceiving and remembering? Is he a visualizer or a non-visualizer? Does his mind work with image or with words, with both at once, or with neither? How close to the surface is his storytelling faculty? Does he see the world as Wordsworth and Traherne saw it when they were children? And if so, what can be done to prevent the glory and the freshness from fading into the light of common day? Or in more general terms, how

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can we educate children on the conceptual level without killing their capacity for intense non-verbal experience? How can we reconcile analysis with vision?

Here are the problems of education consequent upon the differential functions of the right and left hemisphere posed clearly a decade before psychology discovered the difference. As Dr. Parnes has clearly told us, problem finding is the necessary precursor of problem solving. Today we have found that El Dorado exists; we also have a map for getting there; we have less than a quarter of a century left to make the immense journey.

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L'Utopie ou l'enseignement des enfants doués
L'auteur décrit ce que serait le programme scolaire des enfants dans un avenir idéal ou utopique--développement de l'individu et de l'espèce humaine, créativité, éducation physique, mathématiques, sciences, communication, méditation, philosophie.

Die Ausbildung der Begabten in Utopie
Der Verfasser beschreibt mit manchen Einzelheiten die zukünftige Ausbildungsmöglichkeit von Kindern unter utopischen

Zuständen. Aspekte des Lehrplans sind die Entwicklung des Individuums, Entwicklung der Gattung Menschen, Schöpfungsgabe, somatische Ausbildung, Mathematik und Naturwissenschaft, Mitteilung, Vorstellungen und Philosophie.

La Educación de los Dotados en una Utopía
El autor describe con ciertos detalles, la posible futura educación de los niños bajo condiciones utópicas. Algunos aspectos del currículum son el desarrollo individual, el desarrollo de la especie humana, la creatividad, la educación somática, las matemáticas y las ciencias, la communicación, la imagen y la filosofía.

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Access to Hidden Reserves of the Unconscious through Dreams in Creative Problem-Solving

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Abstract

Creative inspiration can use the dream as a vehicle for its expression because of unconscious determinants of some forms of creativity. When this occurs, the dream typically represents the "illumination" phase of creativity, following a long period of immersion in a particular problem or a specific area of work. Creative illumination in dreams can be either direct or symbolic, and can characterize scientific as well as artistic achievement.

Historical Developments

In the English language, "conscious" as meaning "inwardly sensible or aware" appeared first in 1620, "consciousness" or "the state of being conscious" in 1698, and "self-consciousness" or "consciousness of one's own thoughts" in 1690 (White, 1960, p. 43). Even before these words were used, humans had some understanding that mental activity outside of our waking "consciousness" does exist. William Shakespeare died in 1616, before the word "conscious" first appeared in English. However, many passages in his plays give witness to this understanding, e.g.,

My mind is troubled, like a fountain stirred;
And I myself see not the bottom of it.

(*Troilus and Cressida* , Act III)

Sleep that knits up the ravell'd sleeve of care,
The death of each day's life, sore labour's bath,
Balm of hurt minds, great nature's second course,
Chief nourisher in life's feast.

(*Macbeth* , Act II)

Suspicion always haunts the guilty mind;
The thief doth fear each bush an officer.

King Henry VI , Part III, Act V)

The word "unconscious" first appeared in English in 1751 and in German in 1776. It was used in the writings of Coleridge, Goethe, Schiller, and Wordsworth. The word appeared in French in the 1850s

(White, 1966, pp. 66-67). Fyodor Dostoevsky, who died in 1881, anticipated Freud with his penetrating insights into unusual mental processes. His vivid sense of the harmonies and cacaphonies of the unconscious are illustrated in a passage from his novel, *The Idiot*, in which he describes a dream:

> These obvious absurdities and impossibilities with which your dream was overflowing... you accepted all at once, almost without the slightest surprise, at the very time when, on another side, your reason was at its highest tension and showed extraordinary power, cunning, sagacity, and logic. And why, too, on waking and fully returning to reality, do you feel almost every time, and sometimes with extraordinary intensity, that you have left something unexplained behind with the dream, and at the same time you feel that interwoven with these absurdities some thought lies hidden, and a thought that is real, something belonging to your actual life, something that exists and always has existed in your heart. It's as though something new, prophetic, that you were awaiting, has been told you in your dream. (Dosteovsky, 1868/1942, p. 455.)

To S. Freud, dreams were the royal road to the unconscious. In his writings, Freud (e.g., 1899/1955) suggested that the raw materials used in dream construction might be traces of prior perceptual experiences of the dreamer. In particular, Freud felt that very recent experiences, such as events from the day immediately preceding the dream, serve as basic elements in dream construction. Freud termed these elements "day residues." He felt that these day residues were "worked over," yielding the ultimate dream product — a complicated and bizarre patterning of the original elements. Although these day residues were typically rather inconsequential happenings, Freud felt that they could represent screens used for disguising socially unacceptable impulses and wishes which were discharged in the dream.

A. Adler (1958) argued for a basic continuity between sleep and wakefulness. Adler also took issue with one of Freud's formulations, stating that residues are important in themselves, as representations of waking concerns. The function of the dream, according to Adler, is a working through of unresolved problems from waking life rather than to discharge unconscious and repressed problems. Both Adler and Freud, therefore, felt that day residue served as the raw material for nighttime dreams. However, Adler felt that the individual's concerns were openly revealed in the dream, while Freud felt the concerns were disguised.

For Adler, dream symbols were a type of language that expressed the individual's current life situation. This emphasis on the symbol that expresses rather than on the symbol that disguises is consistent with Adler's ideas of a continuity between waking style and dream style. For C. G. Jung (1956) as well, the dream symbol revealed rather than concealed, even though he differed from Adler in insisting that one's dream style often disagreed with one's waking behavior. Further, Jung held that dream symbols frequently represented emerging forces in a persons's life rather than the sexual wishes and experiences from the past stressed by Freudians. Therefore, Jung, in opposition to Freud, found it valuable to have his patients write down their dreams, and to play a leading role in their interpretation.

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As the years went by, a diminishing number of psychotherapists gave much credence to Freud's notion that dreams represented attempts at the fulfillment of infantile wishes. Instead, they invoked a variety of motivational patterns to account for the function of dreams. Those who came after Freud also placed more emphasis on the "manifest content" than did Freud himself. It was felt that the "manifest content" often mirrored the dreamer's concerns and problems quite directly, especially when an entire series of dreams could be studied.

The discovery (Aserinsky and Kleitman, 1953) that dream reports could be elicited by waking a sleeping subject following the observance of rapid eye movements (REMs) permitted investigators to evaluate theoretical hypotheses on dreams from a new vantage point. In general, it might be said that the importance of day residue to nighttime dreaming has been confirmed (Hall, 1966). Indeed, both the Adlerian and the Freudian positions may, to some extent, be correct, depending upon the individual and the social matrix in which he or she functions.

The Adlerian notion of a basic similarity of waking and sleeping mentation finds confirmation when one awakens the sleeping subject *before* REM activity begins. Laboratory research (Rechtschaffen, Verdone, and Wheaton, 1963) has demonstrated the similarity of non-REM mentation to mentation during wakefulness. However, both Adler and Freud appear to have erred in suggesting that individuals dreamed in proportion to the intensity of their personal problems. The data demonstrate that REM periods occur in a highly predictable cyclic pattern with few variations for each individual studied. One's emotional problems often take advantage of the dreams that occur during REM periods and a skilled psychotherapist can use dream content psychotherapeutically. However, the research data do not support the notion that one's psychodynamics precipitate REM periods or that disturbed individuals have more frequent and longer occurrences of REM.

Creativity and Dreams

In the same way, creative inspiration can use the dream as a vehicle for its expression. M. Ullman (1965) has described four creative aspects of dreaming: the element of originality, the joining together of disparate elements into new patterns, the concern of the dreamer with important symbols, and the reaction of participating in an involuntary experience. Ullman notes that the final product can be banal or ecstatic but "it is an act of creation to have the dream in the first place."

A number of research studies have explored the topic of creative problem-solving in dreams using "hidden reserves" of the unconscious. D. Foulkes (1966) reported that some people recall their dreams more frequently than others and observed, "Those who generally deny or ignore their world of private and subjective experience during wakefulness seem to recall fewer dreams than do those who accept and exploit this dimension of experience."

J. Adelson (1960), a psychotherapist, noted that his less creative patients generally described simple and conventional dreams while his more creative patients recalled dreams that were highly imaginative. One patient, described by Adelson as insensitive to artistic work, was

reported to be "on guard against any mode of experience which was not logical, rational, and coherent." Another patient, felt by Adelson to be highly creative, told him complex and fanciful dreams.

Stimulated by these examples, Adelson conducted a formal study of 15 college women who were students in a creative writing course. The eight who were rated by their instructor as "highly imaginative" had more exotic dreams than the seven "uninventive" students. Some of the "highly imaginative" group's dreams took place in such settings as an African jungle, an Arabian mosque, and a Parisian bistro. The identities of characters were often transformed in the creative women's dreams so that the dreamer was portrayed in unusual roles. Humor was more prevalent in the dreams of the creative women as were sexuality and color. The "uninventive" women had dreams which typically took place in their immediate environments and which displayed more conventional and stereotyped interests. When sexuality appeared, there was considerable apprehension about its possible discovery.

In another study (Schechter, Schmeidler, and Staal, 1965) a group of New York University psychologists administered creativity tests to 105 college students who had been recording their dreams. It was found that art students remembered their dreams significantly more frequently than science and engineering students. In addition, there was a statistically significant relationship between dream imaginativeness and scores on creativity tests.

Problem-Solving in Dreams

An 1892 questionnaire study of 200 college students by C. M. Child (in Dement, 1974) had posed the question, "During sleep have you ever pursued a logically connected train of thought upon some topic or problem in which you have reached some conclusion, and the steps and conclusion of which you remembered upon awakening?" Of the 186 students who answered the question, 62 responded affirmatively. Examples given included the playing of a chess game, the solution of an algebra problem, a translation of Virgil, and the discovery of a bookkeeping mistake.

More recently, W. C. Dement (1974) studied 500 university students who had been instructed to solve problems while dreaming. Solutions were obtained only seven times, suggesting that creative dreams are difficult to program.

R. D. Cartwright (1974) administered a group of students pairs of equally difficult problems to solve under two conditions. In one case, there was a waking interval between the time they began working on a problem and the time they finished it. For the other problem, they had a sleep period — including REM — in between. The problems they were asked to solve were crossword puzzles, a word-association test, and story completions. Since dreaming often associates unconscious elements, it was felt that it might alter the results.

The findings were clear. There was no difference in crossword puzzles or word-association test results whether the subjects had been awake or dreaming between trials. There was a decided difference in the story completions. After staying awake, most subjects gave stories a happy ending; the main character in the story achieved gratification, sometimes at the expense of others. After a period of dreaming, however, the story's main character was less successful. Sometimes the ending of the story implied that things did not work out very well.

For example, one subject ("Jim") was given a picture which showed a young boy staring at a violin. "Jim," following his waking period, wrote a story that concluded with the boy playing violin in his

school orchestra. Following a dreaming period, however, another subject ("Vic") wrote a story in which the boy was disappointed because his teacher had fallen ill and he had learned very little on the violin. However, "Vic" was also shown a picture of an elderly lady. After his waking period, "Vic" told a story in which the lady had a pleasant experience with her son. "Jim," on the other hand, wrote a story after his dreaming period in which the old woman's son betrayed her.

Cartwright (1977, p. 103) suggested that her subjects were better able to recognize and speculate about negative possibilities following dreaming — possibilities they seemed to avoid while awake. Since dreamers need not take any direct action during sleep, they may be able to consider and prepare for unpleasant circumstances.

Illumination in Creativity

When one examines the instances of artistic and scientific insights occurring in dreams, G. Murphy's (1958, pp. 129-131) description of stages of the creative process comes to mind. Murphy notes that first there is the long immersion of the sensitive mind in a specific medium such as color, tone, movement, space, time, language, or social relationships. The second phase in creativeness appears when this sensitivity leads to the acquisition of storehouses full of experiences which consolidate themselves in the unconscious. This consolidation involves organization into structured patterns of experience:

> There are the color combinations and linear combinations of the world of pencil, crayon, and brush. There are the organized patterns of temporary and spatial relationships that go into mechanics. There is the world of social relationships, privileges, and obligations. Now, since all these things cannot be kept in consciousness at a single moment, they are organized unconsciously into systems upon which we may draw as we need them — living storehouses of ready, yet adaptable and flexible, information and experience. New stimulation, new love of such experience "incubates" them, makes them grow warm or even brings them to a "flash point" of readiness so that a new spark will precipitate a chain reaction of glowing creativity. (p. 130)

The third stage is illumination, as when Archimedes jumped from his bathtub shouting "Eureka! I have it!" upon conceptualizing the principle of displacement. In a similar way, F. A. Kekule, in a daydream, saw the components of the benzene ring arrange themselves, solving a problem he had worked on for years. Such creative acts are the necessary derivatives of the two preceding phrases and lead to the fourth step, that of critical evaluation, the sifting and testing, which is needed before the creation is complete.

As Murphy observes, illumination need not occur unconsciously. The "storehouses of experience" he describes can be drawn upon consciously. A. Rothenberg (1979), for example, found that creative thinking is usually a fully conscious, intentional, rational process. Even so, the unconscious plays a vital role; Rothenberg studied Eugene O'Neill's play, *The Iceman Cometh* , and found evidence that it was stimulated, in part, by O'Neill's early experience of a friend's suicide following his wife's infidelity. However, O'Neill's friend had *wanted* his wife to be unfaithful; this situation produced the focus on both religious and sexual in-

fidelity, which was to be reflected in the substance and the title of the play.*

When illumination occurs in a dream, it often follows a long period of immersion in a particular problem or a specific area of work. H. V. Hilprecht attempted to decipher the inscription on two small fragments of agate which were believed to belong to the finger rings of a Babylonian nobleman and bore cuneiform writing of the Cassite period in Babylonian history (Van de Castle, 1961, pp. 1-2). After midnight, he was weary and exhausted, went to sleep, and dreamed that a Babylonian priest appeared to him, telling Hilprecht how to put the fragments together so as to demonstrate that they had once belonged to the same prayer cylinder. Upon awakening, Hilprecht followed the instructions given in his dream and verified the suggestion.

In 1869, D. I. Mendeleev went to bed exhausted after struggling to conceptualize a way to categorize the elements based upon their atomic weights (Kedrov, 1957). He later reported, "I saw in a dream a table where all the elements fell into place as required. Awakening, I immediately wrote it down on a piece of paper. Only in one place did a correction later seem necessary." In this manner, Mendeleev's Periodic Table of the Elements was created. This example also demonstrates the importance of critical evaluation, the fourth stage in the creative process, because creative products rarely emerge from the unconscious fully formed.

Creative Symbolism

At times, creative illumination in dreams is direct while at other times it is symbolic. An example of the latter can be found in the case of E. Howe who had worked unsuccessfully for several years to invent a lock stitch sewing machine (Kaempffert, 1924):

> ...Howe made the needles of his early failures with a hole in the middle of the shank. His brain was busy with the invention day and night and even when he slept. One night he dreamed...that he was captured by a tribe of savages who took him a prisoner before their king.
>
> "Elias Howe, " roared the monarch, "I command you on pain of death to finish this machine at once."
>
> Cold sweat poured down his brow, his hands shook with fear, his knees quaked. Try as he would, the inventor could not get the missing figure in the problem over which he had worked so long. All this was so real to him that he cried aloud. In the vision he saw himself surrounded by dark-skinned and painted warriors, who formed a hollow square about him and led him to a place of execution. Suddenly he noticed that near the heads of the spears which his guards carried, there were eye-shaped holes| He had solved the secret| What he needed was a needle with an eye near the point| He awoke from his dream, sprang out of bed, and at once made a whittled model of the eye-pointed needle, with which he brought his experiments to a successful close.

*The "iceman" in O'Neill's play (in common American language usage) refers both to death and to a potential adulterer who can visit the wife while her husband is away.

Another example of symbolic information emerging in a dream is the case of N. Bohr, the physicist (Van de Castle, 1961, p. 2). He dreamed of being on a sun composed of burning gas while planets attached by thin filaments revolved around it. Viewing the sun as representing a fixed center around which electrons revolved enabled Bohr to achieve a new model of the atom.

On the other hand, O. Loewi had an inspiration which provided direct information concerning the chemical mediation of nerve impulses, a problem he had been working on for several years (Gerard, 1955, p. 227). He was quite concerned with his inability to design an experiment to answer his questions in this area; he slept fitfully and one night an idea came to him. He wrote down some notes, then slept peacefully until morning. However, he could not read his scrawl or remember his experiment. The next night he was agonizing until three o'clock in the morning when he recalled his insight. Taking no chances, he went to the laboratory and started to work, eventually winning the Nobel Prize for proving that active chemicals are involved in the action of nerves.

Direct information also characterizes the case of the mathematician, S. Ramanujan (Newman, 1948). From time to time, the image of Namakkal, a Hindu goddess, would appear to Ramanujan in his dreams. Upon awakening, he would record the mathematical formulae given to him by Namakkal and would verify them. The act of verification illustrates the fourth phrase of the creative process as described by Murphy.

Giuseppe Tartini, the composer who invented the modern violin bow, dreamed that the devil had become his slave (Porterfield, 1941, p. 9). In the dream he gave the devil a violin and, to his surprise, the demon played "a sonata of such exquisite beauty as surpassed the boldest flights of my imagination." After Tartini awoke, he recalled the music as well as he could; the result is "The Devils's Sonata," his best known composition.

Richard Wagner, describing his opera *Tristan and Isolde* to Mathilde Wesendonck, wrote, "For once you are going to hear a dream, a dream that I have made sound....I dreamed all this; never could my poor head have invented such a thing purposively" (Hock, 1960). In September, 1853, Wagner took an afternoon nap and the conception of the orchestral prelude to *The Rhinegold* came to him; he was able to complete the entire opera by the following May (Ducloux, 1977, p. 22).

Robert Louis Stevenson (Woods, 1947, pp. 871-879) learned early in his life that he could dream complete stories and that he could even go back to the same dreams on succeeding nights to give them a different ending. Later he trained himself to dream plots for his books and stories. He wrote that his dreams were produced by "little people" who "labor all night long," and "set before me truncheons of tales upon their lighted theatre." Stevenson's short story, *The Strange Case of Dr. Jekyll and Mr. Hyde* , came to him in a dream after he had gone for two days failing to come up with a plot by conscious deliberation.

Jean Cocteau (1952) dreamed he was watching a play about King Arthur; he later noted that it was "an epoch and characters about which I

had no documentary information." The dream was so challenging that Cocteau was led to write his play, *The Knights of the Round Table*. He concluded, "The poet is at the disposal of his night. His role is humble, he must clean house and await its due visitation" (p. 82).

Reserves of Memory

Although examples of creative insights occurring in dreams are infrequent, they do indicate that dreams can perform functions beyond the fulfillment of socially unacceptable impulses and wishes posited by Freud. However, Freud appears to have been correct in conceptualizing the existence of day residues — experiences from one's waking life which could serve as basic elements in dream construction.

Adler's insistence on continuity between wakefulness and sleep is supported by the examples of creative dreams, as is his notion that day residues can be important in themselves, representing waking concerns and allowing the dreamer to work through unresolved problems.

Jung's exploration of dream symbols is justified by the number of times they appear in creative dreams. Sometimes the creative solution itself is symbolic (e.g., Howe's spears, Bohr's sun and planets). Sometimes the creative element of the dreamer's psyche takes symbolic form (e.g., Hilprecht's Babylonian priest, Ramanujan's Hindu goddess, Tartini's devil). Symbols often assist the dreamer to tap what Kupriyanovich (1970) referred to as a person's "reserves of memory." In creative dreams, the symbols typically reveal information rather than disguising it — contrary to Freud's hypothesis but supportive of Adler's and Jung's ideas.

An understanding of the role played by "set" (Uznadze, 1967) is useful in understanding certain aspects of the creative dream. D. M. Uznadze used this term to describe unconscious changes of the functional condition in the nervous system which, though not recognized, play an important role in the dynamics of succeeding conscious experiences. Sets are held to be the most important elements of unconscious activity and form the key components of goal-directed behavior.

Set theory, for example, could explain the emergence at night of answers to the problems which had occupied Howe and Loewi for several years. It could also shed light upon the process by which Hilprecht and Mendeleev went to bed frustrated and exhausted only to solve their creative problems in their dreams. In a similar fashion, Ramanujan and Stevenson came to rely on their dreams for inspiration. Others have been surprised by the information given them in dreams: Tartini's dream contained music that, he claimed, "surpassed the boldest flights of my imagination." Wagner wrote, "never could my poor head have invented such a thing purposively." Cocteau's dream involved "an epoch and characters about which I had no documentary information."

In all these cases, the insight of the unconscious can be understood on the basis of set theory. Furthermore, unconscious sets can fulfill the role of a "bridge." In this manner, set theory negates the necessity of viewing the conscious and unconscious as two completely separate realms and allows us to conceptualize the unity of nervous system phenomena. In this manner, we can approach the problem of hidden reserves with confidence that we can develop practical methods of uncovering the possibilities they have to offer.

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Le rêve, le subconscient et la créativité
Venant du subconscient, le rêve est essentiel à la créativité. Directement ou symboliquement, le rêve peut servir à éclairer un problème d'ordre scientifique ou constituer la base d'une oeuvre artistique.

Zugang zu den verborgenen Reserven im UnterbewuBtsein durch Träume in schöpferischer Problemlösung
Schöpferische Eingebung kann wegen der unbewuBten, entscheidenden Faktoren von einigen Schöpfungsarten den Traum als Mittel für ihren Ausdruck verwenden. Wenn das vorkommt, repräsentiert der Traum typisch die Illuminationsphase der Schöpfung, die folgt, nachdem man sich lange in ein besonders Problem oder spezifisches Arbeitsbereich vertieft hat. Die schöpferische Illumination in Träumen kann entweder unmittelbar oder symbolisch sein und wissenschaftliche sowie künstlerische Leistung kennzeichnen.

El Acceso a las Reservas Ocultas de la Inconsciencia a través de los Sueños en Solucionar Problemas de una Manera Creativa
La inspiración creativa puede usar el sueño como vehículo para su expresión a causa de los determinantes inconscientes de algunas formas de creatividad. Cuando esto occurre, el sueño generalmente representa la fase "iluminante" de creatividad, siguiendo un largo período de inmersión en un problema específico o en un área determinada de trabajo. La iluminación creativa en sueños puede ser directa o simbólica, y puede caracterizar logros científicos y artísticos.

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Applying S.A.L.T. to Fifth Grade Reading Instruction

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Abstract

This study assessed the effect of the SALT (Suggestive-Accelerative Learning and Teaching) method as applied to the teaching of reading in a rural central Iowa fifth grade class (N = 31). The SALT-taught students gained significantly more in reading comprehension and vocabulary than did the control class, but showed no difference from the controls on three measures of affective change.

Introduction

The elementary teacher who participated in this study was a part of a larger group of central Iowa public school teachers who volunteered to learn a new teaching method. She completed a 120-hour teacher training graduate course offered by Iowa State University during the 1976 second summer session. The first year of SALT application was considered a pilot project by the experimenters, while the second year (1977-78) was the anticipated payoff period. This reading teacher, as did eight of ten teachers in other areas, performed as expected, demonstrating statistically significant gains during the second project year.

Some preliminary exploration of the teaching techniques employed in this study may be appropriate for those members of this audience who are unfamiliar with the methodology described herein.

Georgi Lozanov, an M.D. currently doing educational research in Sofia, has developed an instructional technology (suggestopedia) based on the use of suggestion as a teaching tool. In this method, all aspects of the classroom atmosphere (teacher verbals and nonverbals, decor, materials, activities, and even pupil interaction) are orchestrated for the purpose of exerting maximum positive impact upon students. S.A.L.T. is the Americanized version of Lozanov's work.

An important underlying suggestopedic principle is this: the mind creates and achieves according to the nature of the assumptions it accepts as being true. Limiting belief systems (learning is difficult, school is a bore) cause the mind to operate at far less than its true capacity. Expanded belief systems (learning is interesting and fun, I can learn more than I ever thought possible) in turn allow the activation of unconscious mental processes which produce unexpectedly powerful results.

Lozanov believes that unconscious mental activity can be brought into play through the power of suggestion. Suggestion is considered to have taken effect only when the end result is the demonstration of some

heretofore unactivated mental reserve, such as learning at a much faster rate than before.

S.A.L.T. teaching techniques include integration of the fine arts (music and drama) into the practitioner's teaching style, together with physical and mental relaxation exercises which enable students to prepare their minds to receive lesson material. Motivation, positive expectation, and the use of visual imagery (forming mental images related to lesson material) are the three student variables upon which suggestion impacts in order to engage all of the mind's capacities in the learning task.

Review of Literature

Many experiments (not necessarily focusing on elementary school reading) cite the importance of the three experimental variables under consideration in this study. Since focusing on these variables constitutes a generic approach to teaching, one that is not limited to reading per se, members of this audience should realize that the experimenters were attempting to refine an overall instructional strategy based on newly articulated principles of learning theory and to demonstrate its efficacy through adaptation to spelling.

The thread of North American educational thought most closely resembling Lozanov's is that of Robert Rosenthal (1968, 1974) whose Pygmalion Effect metaphor bias became a commonly accepted descriptor for studies of ways in which a teacher's unconsciously generated cues may effect a pupil's feelings about himself and thus his academic performance.

Among Rosenthal's many experiments was one in which teachers were given the names of children in their classes who "could be expected on the basis of test scores," to show remarkable gains during the upcoming year. These experimental children (although they were randomly selected and were certainly not special) showed more than a four point gain in IQ during eight month's time over a control group.

Rosenthal explains his results in terms of the teacher's positive expectations leading to the creation of a warmer social emotional mood around their special students, together with more performance feedback. Such teachers also cover more and more difficult material with their "special" students and give them more opportunities to respond and question.

S.A.L.T. practitioners have as their goal the operationalization of the Pygmalion Effect. That is, they are trained to create, maintain, and intensify the effects of positive expectation.

Considerable research has focused on mental imagery as an aid to learning. The creation of mental images, i.e., the ability to "see with the mind's eye", has been described in several ways: visual memory, mental imagery, inner perception, and visualization. In each case the terms refer to a process by which a person sees flowing pictures on a mental screen inside his head. The images float by on the screen, just as if a movie was being shown.

Matthew Erdelyi (1977) has demonstrated the growth of recall over time when mental images are attached to stimulus material. His research, which shows an increase in magnitude of memory growth for time intervals up to a week, is in direct contrast to the commonly accepted Ebbinghaus forgetting curve which shows that memory for nonsense syllables inevitably decreases with time.

Ruth Strang, in *Reading Diagnosis and Remediation* , cites several studies regarding the importance of imagery to memory. As

quoted by Dean Held (1976):

> Fourth grade social studies students were given practice in assignments containing vivid descriptions whereby they had to describe, in writing, mental pictures created and do illustrations about them. The students who had imagery practice consistently did better on memory tests than control groups not having this practice.

Doris Johnson and Helmer Myklebust (1964) in *Learning Disabilities: Educational Principles and Practices* , express their opinion that imagery has in the past been neglected in education and psychology. They consider imagery to be part of the memory process: when a student recalls sounds, he also comes in contact with the visualizations associated with those words. The inability to relate sounds to imagery is believed to hinder the memory process.

Two North American S.A.L.T. researchers, Prichard and Taylor (1976, 1976, 1978) have described the effective use of suggestion as it impacts on motivation, expectation, and visual imagery in a remedial reading program in which students averaged four months gain per month of instruction in one-semester programs carried out during 1974-77. Schuster and Vincent (1980) reported a similar study in which learning disabled students gained over two years in standardized reading test scores in one school year.

Other S.A.L.T. researchers have conducted successful public school experiments in other lesson areas: Gritton and Bordon (1976) for junior high science, Caskey (1976) in several areas, and Schuster, et. al. (1976) who have compiled a teacher training manual based on these principles.

Method

The application of S.A.L.T. to fifth grade reading instruction went as follows:

1. Physical exercises, mostly muscle tensing and relaxing.
2. Mind calming with music, a time in which students relaxed and immersed themselves in soft music while they visualized themselves first in a safe calm place away from the classroom, then saw themselves learning lesson material quickly and easily. After 3-5 minutes of this activity, the students returned to their usual attentive state of awareness.
3. Lesson presentation: the teacher introduced the day's reading material, using a variety of resources to make the story interesting...anecdotes, metaphors, funny sentences containing the new vocabulary words, etc.
4. Students read the new lesson silently, then aloud, taking turns by paragraph, then answered workbook questions over the just completed story.
5. Mind calming with music, a second time during which the students relaxed and immersed themselves in music. This time, the teacher summarized the grammatical points and vocabulary peculiar to the day's work and read the lesson aloud to the relaxed students, who were encouraged to visualize the sequence of events that took place in the story.

Data Collection, Analysis

Alternate forms of the California Achievement tests (14-C and 14-D) were administered as pre and post tests during September, 1977 and May, 1978, respectively. The Brooks Student Questionnaire (BSQ) was administered either on the day before or the day after achievement testing occurred. Experimental and control classes were tested within a week of each other in both occasions.

An analysis of covariance design was used (with the dependent variable pretest as covariate) to test the treatment (S.A.L.T. vs. Control) effect. The dependent variables were the reading (comprehension and vocabulary) achievement scores and the three BSQ scales: student-teacher affective relations, perceived school stress, and school-learning orientation. Each student's posttest score was adjusted for initial pretest differences in order to compensate for initial group differences.

Results

Table 1

ANACOVA summary of the effects of pretest and treatment on fifth grade California Achievement Test reading comprehension scores

Source	*df*	*MS*	*F*
Pretest	1	259.58	24.79**
Treatment	1	135.89	13.08**
Error	28	10.39	----

**p<.01

Treatment averages by testing

Treatment	*N*	*Pretest*	*Raw Posttest*	*Adjusted Posttest*	*Gain*
Control	12	26.92	27.33	28.06	0.41
SALT	19	29.00	32.89	32.44	3.89

Table 1 presents the analysis of covariance of the effects of pretest and treatment on reading comprehension. A significant ($p < .01$) effect was found for pretest and treatment. The significant pretest effect reflects the well known and expected correlation between alternate

forms of the same test. The treatment effect was also significant ($p < .01$), i.e., the S.A.L.T. students gained more in reading comprehension than did the controls.

Table 2

ANACOVA summary for the effects of pretest and treatment on California Achievement Tests vocabulary scores

Source	*df*	*MS*	*F*
Pretest	1	131.81	21.36**
Treatment	1	26.20	4.92**
Error	28	5.33	----

*$p < .05$, **$p < .01$

Treatment Means

Treatment	*N*	*Pretest*	*Raw Posttest*	*Adjusted Posttest*	*Gain*
Control	12	25.25	25.50	25.26	0.25
SALT	19	24.47	27.00	27.15	2.53

Table 2 shows the analysis of covariance of the effects of pretest and treatment on vocabulary scores. Significant effects were found for both pretest ($p < .01$) and treatment ($p < .05$). The significant pretest effect again reflects the expected correlation between alternate forms of the same test. The S.A.L.T. students averaged higher CAT vocabulary scores than did the controls.

Analysis of Brooks Student Questionnaire results is next. In the ANACOVA summary for the effects of treatment, sex, and pretest on BSQ affective relations scores no significant effects were observed.

In the analysis of covariance summary for the effects of treatment, sex and pretest on BSQ stress scores, a significant pretest effect ($p < .01$) occurred; this reflects the expected correlation between alternate administrations of the same test. The S.A.L.T. students were significantly ($p < .05$) more stressed at year-end than the controls; this is viewed as a reflection of a major pretest difference. An analysis of variance for the effects of treatment and testing (pre or post) showed the changes between groups or interaction to be insignificant ($F = 0.21$, $df = 1/48$, $p > .05$). The interaction of treatment and sex of subject was significant ($p < .05$); at year-end the S.A.L.T. male students were more stressed than the rest.

In the ANACOVA summary for the effects of treatment, sex and pretest on fifth grade BSQ orientation scores no significant effects ($p < .05$) were observed.

Summary

In assessing the S.A.L.T. method as applied to a fifth grade, mid-socioeconomic reading class, these conclusions appear warranted:

1. The S.A.L.T. class students performed significantly better on California Achievement Tests reading comprehension and vocabulary scores than the controls.

2. On the Brooks Student Questionnaire (BSQ) stress scale, the S.A.L.T. students had significantly poorer posttest scores than did the control students. This was due to initial pretest differences, as the gain scores were the same.

3. There were no significant differences in the BSQ scales of affective relations or learning orientation scales.

The authors feel that this study demonstrated results similar to those obtained in other S.A.L.T.-type research efforts. It is becoming increasingly apparent that the use of suggestion to increase motivation and expectation together with the technique of relating visual imagery to lesson material constitute a powerful teaching methodology which is only beginning to be explored.

In effect, the use of suggestion as a classroom teaching tool is proceeding on a schedule through its developmental stages. Wider use of such methodology will undoubtedly occur as these techniques are further expanded and refined.

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L'application de SALT à l'enseignement de la lecture dans une classe de cinquième
Dans cet article on analyse les effets de SALT dans l'enseignement de la lecture aux élèves de cinquième. On a trouvé que les élèves de cette classe iowienne à qui on avait donné une formation SALT ont reçu de meilleures notes en compréhension et en vocabulaire que les élèves qui se trouvaient dans le groupe de contrôle. En ce qui concerne trois mesures de changement affectif, il n'y a pas eu de différence entre le groupe "SALT" et le groupe de contrôle.

Die Verwendung von S.A.L.T. auf den Leseunterricht in der fünften Klasse
Diese Studie bewertet die Wirkung von der S.A.L.T. (suggestiv-beschleunigtes Lernen und Lehren) Methode, wie sie auf den Leseunterricht in der fünften Klasse von einer ländlichen Schule in der Mitte von Iowa verwendet wurde. Die mit SALT unterrichteten Schüler erreichten ein wesentlich höheres Verständnis des Lesestoffs sowie einen grösseren Wortschatz als die Kontrollgruppe. Jedoch zeigte sich kein Unterschied von der Kontrollgruppe in drei Messungen der affektiven Änderung.

Aplicación de S.A.L.T. al Quinto Grado
Este estudio evaluó los efectos del método de SALT aplicado a la enseñanza de la lectura en una class del quinto grado (31 alumnos) en un área rural del centro de Iowa. Los alumnos que aprendieron con el metodo de SALT adquirieron mucha más compresión y vocabulario en la lectura que la clase que aprendió con el método tradicional, pero no mostraron ninguna diferencia con esta clase en cuanto a las tres medidas de cambios afectivos.

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Discussing Suggestive Semiotics in Language Learning

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Abstract

The writer reports on Hungarian work with suggestion and signs, or suggestive semiotics. Numerous foreign language courses have been taught in Hungary with teachers trained in suggestopedia and good results. The use and influence of suggestion in teaching pronunciation and grammar especially needs to be investigated further in combination with semiotics.

As more effective learning has come into focus in education, discussions of current research and experimental workshops are of great professional relevance. Even in old Europe, we are getting to realize that, if we want pupils to learn more economically, the teaching profession has to learn more about learning.

For this reason, we gladly accepted with great expectations the invitation to this conference and the Hungarian participants would like to express their gratitude to S.A.L.T. for the hospitality.

In the very rich program of the conference there is a topic I should like to single out for comment. It is suggestive pedagogy. It seems to me that suggestive pedagogy proves to be a key issue if we take suggestion for a general phenomenon, present in every human activity as a set of positive and negative influences.

Moreover, positive and negative influences in the process of human communication are signals, coming from signs. Symbols make man, and suggestion is a constituent of semiosis. It takes part in the use of conventional signs like speech, and in other, nonconventional behavioral signs like blushing. Furthermore, human communication is not only produced but also conditioned by signs, and the interrelationship of different sign systems in the communication flow is also considered a matter of suggestion.

Suggestion and signs are connected in human interaction as general phenomena, and this aspect of communication may be called suggestive semiotics. It is an old concern of educational practice but, as a matter of fact, in certain periods we neglect to think of it.

I.

For my comments, I propose to start from some Hungarian experience with Dr. Lozanov's suggestopedic language teaching.

As Dr. Stanley Krippner of the Humanistic Psychology Institute in

San Francisco, California devoted a whole chapter to the Hungarian experiment in one of his recent books, I shall not go into any details now. Besides I could not offer such a vivid and objective report with his observations and perspicacity. My point is to show how practical work led us to suggestive semiotics.

The Hungarian Scientific and Technical Societies came into contact with suggestopedia at the end of the sixties and, with the help of Dr. Lozanov, introduced suggestopedic language courses mainly for society members, engineers and people involved in industrial management, in the early seventies. In a decade or so over one hundred experimental courses have been carried out, with more than one thousand participants who have become enthusiasts of the method. In other institutions, Technical University, ministerial organizations the number of the courses were smaller, but the results were very similar.

Most of the courses tried to replicate the Lozanov experiment, with teaching material from Sofia and with instructors trained in Bulgaria or in Hungary by Bulgarian teachers. It's only in recent years that Hungarian suggestopedic textbooks for Spanish, Russian, German, and a follow-up course book for English have appeared.

The humanistic and psychiatric approach used to be predominant. The instructors did much for orchestrating psychologically conscious and paraconscious elements of the internal and external environment, i.e. influences coming from inside and outside of the classroom. Participants, as individuals and as members of a group, inspired by their instructors, combined zest and zeal to create a warm, cooperative and positively expectant atmosphere, in the spirit of excitement and good humor. The whole personality of the participants was involved in simple dialogues on everyday topics. Difficulties of pronunciation and grammar remained on a "second plane". They were assimilated with the whole, without particular attention being paid to them.

In this way, simple speech abilities have been acquired, and suggestopedia has proved to be more economical than any other method. The value of spontaneous human capacities has been demonstrated and it has become obvious that a series of phenomena in speech cannot be obtained with a conscious effort of the will. A great number of pupils had been learning with the same method in the follow-up courses.

On the other hand, it can be observed that the participants of ambitious follow-up courses wish to obtain a reliable feedback to their speech production. In other words, they urge their instructors not to avoid difficulties in grammar and to give homework to practice language structures with accuracy. It seems to me that similar cases occur in other countries too. But difficulties of grammar, pronunciation and lexis have so far been relegated in suggestopedic language courses to the paraconscious "second plane". Put in the focus of attention, they could deprive learning from its suggestive support, couldn't they?

Teachers with a good training in the psychiatric aspect of suggestopedia who understood, at the same time, the requirements of advanced learning, started experiments to combine the students' spontaneous

abilities and studial capacities in the learning-teaching process. It is obvious that a series of phenomena in speech cannot be obtained with a conscious effort of the will, and it has become obvious that a series of skills in sophisticated language use cannot be acquired without conscious efforts of the will. The teacher's task is to make the efforts of the student easier by means of suggestion. The extension of suggestive methods, although still in an early stage, inspire optimism in Hungary. Suggestopedists are of the opinion that Dr. Lozanov's concept of "suggestiion as a general phenomenon" is likely to overcome the problems of growth. If suggestion is in the background of all human activities, as a set of positive and negative influences, it ought to be included in every kind of learning.

Nevertheless, suggestion as a general phenomenon needs more investigation. Teachers' experiments and promising brain research open new perspectives. As to social sciences, new developments in semiotic studies seem to encourage a more accurate description of suggestive influences.

Let's have a look at what semiotics can offer now.

II.

Two recent international congress' - one on linguistics, the other on semiotics, - have confirmed that the typology of signs, the combination of signs and sign systems, are being carefully investigated and studied. The notion of sign is often used in such an extended meaning that "phenomena of the nonspecific psychic reactivity," referred to by Dr. Lozanov as the sources of suggestion, seem to be included.

Fernando Poyatos, University of New Brunswick for instance, is conducting an integrative research of nonverbal signs. In the "message conveying activities of human signalling systems, he distinguishes so far sixteen ways of consciously or unconsciously emitting signs, which are consciously or unconsciously perceived by a receiver, eliciting or not eliciting specific behaviors on his part.

These exchanges result in various somatic systems, namely verbal language, paralanguage and kinesics, plus proxemics, and those for which labels have not been established yet, although they even function in equally ritualized patterns such as: the dermal-visual system (e.i., the elicitation of blushing and the various interactive behaviors attached to it), or the chemical-olfactory system (e.g., the rejected or desired olfactory perception of certain natural and artificial chemical compounds).

Moreover in semiotics, message conveying activities are assumed to be co-structured in a number of universal, culture-specific, or individual patterns. Dr. Poyatos drew up a chart of Sensible and Intelligible Systems in a Culture, indicating some of the system relationships of signs. As a realistic point of departure sensorially and intelligibly perceived somatic interaction is placed in both space and time, against

the cultural background.

Furthermore, concepts like redundancy are revised in new semiotics. Various behaviors involved in communication can be either truly redundant or complementary (supporting, emphasizing, or contradicting) to each other. On the other hand, primary communicative systems and secondary systems are differentiated within a general hierarchization of behaviors, in each particular situation, subject to the intensity of each behavior, in relation to the others and to its location in the behavioral stream.

It seems to me that the insight and understanding we can see in new trends of semiotics I tried to exemplify above, will be able to contribute to current research on suggestion as a general phenomenon. Semiotics involves the method for mapping the sign situation. Suggestive pedagogy, on the other hand, has the experience in orchestrating psychologically conscious and paraconscious elements of the environment.

III.

Suggestopedic practice is likely to improve if the underlying theory becomes more extensive and accurate in its predictions. The study of signs and signals and their combinations serves such an endeavour, in relation to suggestive effects.

The linkup of suggestion and signs occurs in an ever-changing hierarchy of information systems at different levels of consciousness. The central core of the problem, in our view, can be best touched in sign situations. It can be reduced to the following four components: a. the emitter, b. the receiver, c. the socially accepted signs, d. facts and features involved in the communication process. The characteristics of these components, their interconnections, and the whole network of the connections serve as information channels in human communication.

Acquiring the skill of operating this network means to develop communicative competence. The core of it is the skill of language use. It is sometimes interpreted in three aspects for the purpose of language teaching: linguistic aspect, psycholinguistic aspect, and sociolinguistic aspect. The three aspects suggest parameters in linguistic competence, in linguistic performance and in verbal and nonverbal interaction.

Linguistic competence in language teaching is often conceived as an internalized system of verbal signs. The competence of linguistic performance means ability to generate speech. The competence of verbal interaction is the skill of organizing the sign situation for communicative purposes. There is no room here to elaborate. I did it elsewhere.

In conclusion I should like to stress that, in our experience, acquisition of a new language requires learning in all the three aspects of communicative competence, and all the three aspects require specific suggestive teaching, based on suggestive semiotics.

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La sémiotique et la suggestion dans l'apprentissage des langues étrangères
Dans cet article on parle des recherches qui ont été effectuées en Hongrie sur la suggestion et la sémiotique, c'est-à-dire la sémiotique suggestive. De nombreux cours de langues étrangères ont été donnés en Hongrie par des professeurs suggestopèdes et avec de très bons résultats. Cependant, il faut étudier en plus de profondeur l'influence de la sémiotique suggestive sur l'enseignement de la prononciation et de la grammaire.

Eine Diskussion von suggestiver Semiotik im Lernen von Fremdsprachen
Der Verfasser berichtet über ungarische Arbeit mit Suggestion und Symbolen oder suggestiver Semiotik. Zahlreiche Fremdsprachenkurse sind mit guten Ergebnissen in Ungarn von in Suggestopädie ausgebildeten Lehrern unterrichtet worden. Die Verwendung und der EinfluB von Suggestion im Unterricht von der Aussprache und Grammatik soll in Verbindung mit Semiotik weiter erforscht werden.

Informe de la Semiótica Suggestiva en el Aprendizaje del Lenguaje .
El escritor informa del trabajo en Hungría con sugestiones y señales, o la semiótica sugestiva. Numerosos cursos de lenguas extranjeras han sido enseñados en Hungría, mostrando buenos resultados, por meestros entrenados en la sugestopedia. El uso y la influencia de la sugestión en la enseñanza de la pronunciación y la gramática necesitan ser investigados mas en combinación con la semiótica.

Erratum

The names of two authors were unintentionally omitted from the article Comparisons of a Kinesthetic, Cognitive and Natural Strategy Relaxation Process which appeared in *JSALT*, 1979, *4* (3). In addition to Mathias Stricherz as originally listed, the other two authors are Rose DeLong, Texas Tech University and Camille LaMontagne, Methodist School of Nursing, Lubbock, Texas.